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Bureau of Naval Personnel

• RESEARCH REPORT •

THE DEVELOPMENT OF A MULTI-PURPOSE ANALYSIS TECHNIQUE FOR NAVY RATINGS

PART II

Supplement to Part I Technical Bulletin 53-1

by

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Personnel Analysis Division

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The assistance of the Office of Naval Research, particularly Dr. D. D. Smith, Head, Personnel and Training Branch, Psychological Sciences Division is sincerely appreciated.

The cooperation received from the officers and men of all vessels visited has been outstanding. In our judgment their contributions from the hard core of this study.

Appreciation is expressed to the Arabian American Oil Company for permitting the Director of the Project to continue this assignment after he became affiliated with that organization.

So many persons have contributed to this study that it is difficult to be sure that all individuals and their organizations received due credit. If any have been omitted, we express our regrets.

SUMMARY

Due to rapid technological advances in weapons and equipment in the Gunner's Mate Rating, the occupational content of this rating has become extensive and complex. Comprehensive data, including accurate and up-to-date information on specific weapons and equipment, are needed.

The purpose of this research contract was the development of a multi-purpose analysis procedure for the Gunner's Mate Billet with particular emphasis on data collection for maintenance, casualty diagnosis and rectification procedures, and operational sequences of new weapons in the field of ordnance.

The 3"/50 Rapid Fire Twin Mount was selected as the vehicle for the study because of its relative newness and because of the existing immediate need for information relative to selection, assignment, and training of new personnel.

Based on the expressed needs of current and potential consumers within the Bureau of Naval Personnel, methods, instruments, and techniques were developed and applied in the field. These were revised and modified as necessary as indicated by field experience.

The result of this study includes a detailed comprehensive breakdown of the weapon casualties in terms of frequency, casualty analysis, rectification procedure, time requirements, personnel proficiency, battle station assignments of 3"/50 gun crew members, verification of ordnance publications, etc..

It is believed that the methodology developed as a result of this study could in the main be adapted to Navy use with such conditions as are elaborated upon the body of the report.

It is recommended that this methodology be validated inservice using the remainder of the weapons in the Gunner's Mate Billet, with the above mentioned stipulations, and a complete follow-up to the eventual consumers be made. This was not possible, in this study, because of the necessary contract limitations.

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Tables

Part III

FACTUAL DATA RECORDED DURING FIELD TRIPS
(Under Separate Cover)

CHAPTER I

COLLECTION OF CASUALTIES

The collection of casualty reports is a consolidation by weapon components, type, and frequency of all casualties recorded in the logs of vessels visited (eleven destroyers and four cruisers) during the field work.

Each report has been carefully reviewed for technical accuracy, is representative of Fleet practice and composite thinking of Fleet personnel and is aimed specifically at the diagnostic or problem solving procedure recommended for training purposes.

The shipboard personnel responsible for the operation and maintenance of the weapon were interviewed and the 3"/50 RFTM battery logs were used as a reference. Prepared casualty report forms and instruction sheets were utilized to guide the interview (See Appendix B, Part Part I).

It was noted that logs were frequently incomplete and that some casualties were not recorded each time they occurred, because of the nature of the casualty frequency, this was considered unnecessary by personnel. Consequently, personnel were interviewed with reference to specific data in the logs and with reference to their ability to recall unwritten casualties. This, admittedly, is not conducive to a truly accurate inventory of weapon malfunctions.

The analyst completed the forms during the interview in order that there be (1) clarity of and accuracy of interpretation, (2) specific reference to the ordnance pamphlets for verification of procedure, and (3) correct catagorizing of components and parts causing malfunction.

The Gunnery Officer, Gunner (if in the complement), and Chiefs were given an opportunity to review the completed forms for technical accuracy, and their critical comments, recommendations, and suggestions were invited.

Objectives for Preparing and Reporting Casualties

The objectives for the preparation of these casualties in this form are:

1. To present a list of casualties indicative of actual shipboard experiences, cataloged by total frequency and component.
2. To provide, for the 3"/50 Gunner's Mate, Class "B" School, factual information which will enable its staff to establish a priority for teaching these casualties based on shipboard needs. This will enable the school staff to evaluate its present program in terms of actual shipboard casualties instead of design-centered OP casualties, thus utilizing the casualty instruction period more effectively.
3. To utilize shipboard experiences to enrich the school training program with additional realistic and practical instruction which will enable the trainee to return to his ship better quali-

fied to handle his job.

4. To provide the trainee with problem-solving techniques which he may use to train new personnel when he returns to his ship.

5. To compile casualty reports on the weapon, enabling on-board training personnel to anticipate training needs based on actual shipboard experiences, thus presenting an opportunity to curtail the diagnostic and rectification period. This, it is anticipated, should reduce the inoperative period of the weapon and result in greater firing efficiency.

6. To encourage issuance to the Fleet of a copy of the casualty report in bulletin form. Shipboard training personnel, interviewed during the study, highly recommend this medium for correlating shipboard instructional procedure with reference to casualty diagnosis and remedial action taken.

3"/50 RFTM Casualties by Weapon Components and Frequency, (Seventy-One Mounts; 41,340 Rounds Fired)

Table one presents a detailed breakdown of the casualties listed in the logs of the fifteen vessels visited. In addition to recording the casualties by component and frequency an effort was made to record these malfunctions by type of vessel. Chapter VI, Part I, of this report contains further statistical data on rounds fired and casualty frequency.

TABLE 1

DETAILED LISTING
OF
3"/50 RFTM CASUALTIES
BY
WEAPON COMPONENT

(Seventy-One 3"/50 RFTM's)
(41, 340 Rounds Fired)

WEAPON COMPONENTS (References OP 1753)	CRUISERS	DESTROYERS	GROUP TOTAL
CARRIAGE (3" MK 22 MOD 3)			
Structural Group			
(1) Lower Base Ring (Ref.) (p. 43)	0	0	
(2) Upper Base Ring (p. 21)	3	0	
(3) Water Piping (p. 23)	0	0	
(4) Gun Carriage Pedestal (p. 23)	0	0	
(5) Platforms, Railings, Case Chutes, and Seats (p. 24)	0	0	
	3	0	3
Attachments			
(1) Ammunition Stowage Magazines (p. 24)	0	2	
(2) Train Limit Stop Buffer (p. 27)	0	3	
(3) Elevation Locks (p. 29)	7	10	
(4) Train Centering Pin (p. 29)	3	5	
(5) Tram Blocks (p. 31)	0	0	
(6) Fire Interrupter (p. 31)	0	0	
	10	20	30
STAND (3" MK 22 MOD 1)			
(1) Stand (p. 42)	0	0	
(2) Carriage Bearings (p. 43)	1	2	
(3) Training Circle (p. 44)	1	1	
(4) Train Stop (p. 44)	0	2	
	2	5	7

TABLE 1 (Cont'd)

WEAPON COMPONENTS (References OP 1753)	CRUISERS	DESTROYERS	GROUP TOTAL
ELEVATING GEAR (3" MK 2 MOD 1)			
(1) Worm Drive and Pinion Unit, (R.G.) (p. 52)	0	0	
(2) Worm Drive and Pinion Unit (L.G.)	0	0	
(3) Bevel Gear Housing and Cross Shaft Unit, (p. 55)	0	0	
(4) Speed Reducer (p. 57)	0	0	
(5) Power-off Brake (p. 59)	6	8	
(6) Hand Drive Mechanism (p. 63)	0	0	
(7) Elevation Buffer (R.G.) (p. 64)	0	2	
(8) Depression Buffer (R.G.) (p. 64)	0	1	
(9) Elevation Buffer (L.G.) (p. 64)	0	3	
(10) Depression Buffer (R.G.) (p. 64)	0	0	
	6	14	20
ELEVATING GEAR (3" MK 4 MOD 1)			
(1) Spur Drive and Pinion Unit (L.G.) (p. 311)	0	0	
(2) Spur Drive and Pinion Unit (R.G.) (p. 311)	0	0	
(3) Cross-Shaft Unit (p. 315)	0	0	
(4) Power-off Brake (p. 316)	1	2	
(5) Hand Drive Mechanism (p. 315)	0	0	
(6) Elevation and Depression Buffers (p. 320)	0	0	
	1	2	3
TRAINING GEAR (3" MK 2 MOD 1)			
(1) Pinion Drive Unit (p. 74)	0	0	
(2) Power-off Brake (p. 78)	16	9	
(3) Response Gear (p. 82)	0	0	
(4) Hand Drive Mechanism (p. 85)	10	5	
	26	14	40

TABLE 1 (Cont'd)

WEAPON COMPONENTS (References OP 1753)	CRUISERS	DESTROYERS	GROUP TOTAL
POWER DRIVES (See Chapter 7)			
Elevation Power Drive MK 35 MODS 0, 1			
(1) Elevation Receiver Regulator MK 21 MOD 0, 1	2	0	
(2) Motor Generator (Amplidyne) MK 6 MOD 0	14	6	
(3) Elevation Motor (Drive) MK 1 MOD 0	1	1	
	17	7	24
Train Power Drive MK 35 MODS			
(4) Train Receiver Regulator MK 29 MODS	40	6	
(5) Motor Generator (Amplidyne) MK 6 MOD 0	50	12	
(6) Train Motor (Drive) MK 1 MOD 0	0	0	
	90	18	108
Amplifier MK 40 MOD 0			
(7) Motor Field Control	86	11	
(8) Parallax Amplifier	142	70	
(9) Train Amplifier	681	300	
(10) Elevation Amplifier	809	390	
(11) Power Supply	64	32	
(12) Terminal Board	0	0	
(13) Heat Exchanger	0	0	
(14) Control Panel MK 65 MOD 0	210	106	
(15) Control Panel MK 62 MOD 0	20	11	
(16) One-Man Control MK 2 MOD 0, Right	40	13	
(17) One-Man Control MK 2 MOD 0, Left	45	23	
	2097	956	3053

TABLE 1 (Cont'd)

WEAPON COMPONENTS (References OP 1753)	CRUISERS	DESTROYERS	GROUP TOTAL
SIGHTS (3" MK 40 MOD 1) (Ring - MK 16 MOD O)			
(1) Sight Structure (p. 241)	0	0	
(2) Sight Setting Mechanism (p. 245)	0	0	
(3) Telescope (p. 251)	0	0	
(4) Peep Sight (p. 251)	0	0	
	0	0	0
Peep Sight			
(5) Sight Bracket (p. 253)	0	0	
(6) Rear Sight (p. 254)	0	0	
(7) Front Sight (p. 253)	0	0	
	0	0	0

TABLE 1 (Cont'd)

WEAPON COMPONENTS (Reference OP 1566, 1st. Rev.)	CRUISERS	DESTROYERS	GROUP TOTAL
GUN ASSEMBLY			
1. Gun	0	0	
2. Housing Assembly	0	0	
(a) Breech Housing	2	2	
(b) Breech Mechanism	16	12	
(c) Firing Mechanism	0	0	
(d) Firing Circuit	400	50	
3. Faulty Case (did not extract)	23	3	
	441	67	508
SLIDE			
1. Slide Liners	10	0	
2. Trunnion Bearings	0	0	
3. Recoil Mechanism	0	0	
4. Counterrecoil Mechanism	0	0	
5. Elevating Arc	0	0	
6. Rounds Fired Counter	500	12	
7. Buffer Stop Attachment	0	0	
	510	12	522
LOADER			
1. Loader Drive Unit	0	0	
(a) Main Housing	18	6	
(b) Loader Drive Motor	7	2	
(c) Drive Control Mechanism	16	7	
(d) Control Mechanism Buffer	144	20	
(e) Shellfeed Drive	0	0	
(f) Shipper Cam Device	0	0	
(g) Control System Parts	12	11	
	197	46	243

TABLE 1 (Cont'd)

WEAPON COMPONENTS (Reference OP 1566, 1st. Rev.)	CRUISERS	DESTROYERS	GROUP TOTAL
2. Left Side Plate	0	0	
(a) Side Plate	15	2	
(b) Transfer Tray & Shell Carriage Drive Gearing	30	2	
(c) Tray Arms, Left	0	0	
(d) Tray Equilibrator	0	0	
(e) Segment Arm Buffer	0	0	
(f) Breech Mechanism Parts	18	3	
(g) Firing Mechanism Parts	0	0	
(h) Loader Cycle Counter	95	5	
(i) Covers	0	0	
	158	12	170
3. Right Side Plate	0	0	
(a) Side Plate	0	0	
(b) Tray Arms, Right	0	0	
(c) Tray Lower Buffer	26	5	
(d) Breech Operating Parts	210	29	
(e) Control System Parts	137	20	
	373	54	427
4. Hopper	0	0	
(a) Hopper Front Frame	560	40	
(b) Hopper Rear Frame	30	5	
(c) Hopper Feed Mechanism	10	5	
(d) Hopper Cover	0	0	
	600	50	650

TABLE 1 (Cont'd)

WEAPON COMPONENTS (Reference OP 1566, 1st. Rev.)	CRUISERS	DESTROYERS	GROUP TOTAL
5. Gate Operating Mechanism	0	0	
(a) Gate Brackets	0	0	
(b) Front Gates	9	2	
(c) Gate Operating Linkage	275	22	
(d) Attached Elements	5	0	
	289	24	313
6. Transfer Tray & Shell Carriage	0	0	
(a) Tray	5	2	
(b) Shell Finger Mechanism	260	13	
(c) Shell Carriage Drive	55	0	
(d) Tray Block Devices	30	3	
(e) Chute Support Bracket	166	0	
(f) Shell Carriage Mechanism	134	5	
	650	23	673
7. Buffer Bar and Shell Deflector	0	0	
(a) Buffer Bar	0	0	
(b) Shell Deflector	590	19	
	590	19	609
8. Breech Interlock Mechanism	0	0	
(a) Arrangements MK 2 MOD 5	528	10	
(b) Arrangements MK 2 MODS 4 and 6	49	6	
(c) Breech Shell Lock Spring and Eccentric	25	0	
	602	16	618
9. Control System	131	16	147

NOTE:
Total Recorded Casualties on Cruisers - - - - - 6,793
Total Recorded Casualties on Destroyers - - - - 1,375

GRAND TOTAL - 8,168

CHAPTER II

THE CASUALTY REPORTS

The casualty reports have been arranged by structual units as indicated in the table of contents. This appeared to be a logical grouping and followings ordnance pamphlets 1753 and 1566 (First Revision). This procedure facilitated the collection of reports through ease of reference to publications.

The grand total of casualties reported number 8, 168 for the seventy-one 3"/50 RFTM's included in the study. Since the primary purpose of the project was the development of a methodology of procedure no attempt was made to complete forms on all casualties. Instead, every attempt was made to prepare, in written form, the malfunctions that happened most frequently, involved diagnostic or analytical reasoning for proper rectification, and those upon which the greatest emphasis was placed in the Fleet.

It will be noted that a few reports are incomplete in that the rate performing the task, as well as the rate supervising the task are omitted. This was an oversight.

WEAPON COMPONENT

CARRIAGE (3" MK 22 MOD 3)

(STRUCTURAL GROUP)

WEAPON COMPONENT

CARRIAGE (ATTACHMENTS)

CARRIAGE: Attachments (1)

CASUALTY REPORT FORM

From:
To:

SHIP:

10.21

1. Major Unit:
   3"/50 RFTM (OP 1753)
2. Main Assembly:
   Carriage
3. Sub-Assembly:
   Ammunition Magazine (p. 26)
4. Part or Piece:
   MK 2 MOD 1 Magazine "fixed"
5. Description of Casualty:
   Two of the spaces on magazine did not have drainage holes.
6. Conditions Under which Casualty Occurred:
   Routine checking.
7. Casualty Analysis:
   Collection of moisture and water indicated plugged holes or no drainage holes. Bailed out and dried, noticed lack of draining facilities.
8. Remedial Action Taken:
   Drilled 1/4" holes at bottom of spaces.
9. Time Involved:
   (a) Equipment inoperative: _____
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    Installation defect.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:

10.10

1. Major Unit:
   3"/50 RFTM (Either MK 33 or MK 27 Mounts) (OP 1753)
2. Main Assembly:
   Carriage
3. Sub-Assembly:
   Elevation Lock -- (Left)
4. Part or Piece:
   Slide Elevation Lock (p. 28)
5. Description of Casualty:
   Elevated the gun, in power, with the elevation lock partially secured. Cracked the elevation lock bracket (p. 28). Both locks on twin could not be locked at one time because bracket was misaligned.
6. Conditions Under which Casualty Occurred:
   Routine exercising of equipment during daily transmission checks -- local surface control.
7. Casualty Analysis:
   1. Tried to elevate gun -- in manual. Gun could not be elevated.
   2. Checked the elevation lock -- it was not all the way out. Cracked bracket was then noticed.
8. Remedial Action Taken:
   1. Manually retracted the elevation lock.
   2. Operated without elevation lock until rectification performed -- using right elevation lock for securing purposes.
   3. Tender available -- removed bracket and tender straightened and brazed it. Installed -- operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 0 (For reason mentioned above)
   (b) Actual Repair Work Time: 1 week (Tender and ship personnel)
10. Cause:
    Personnel carelessness.
11. Remarks and Recommendations:
    Recommended that switch interlock be incorporated in elevation power drive so that power won't start if lock is secured. Similar to single mount arrangement.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

CARRIAGE: Attachments (4) 16

CASUALTY REPORT FOR:

From:
To:

SHIP:
101.39

1. Major Unit:
3"/50 RFTM MK 27 MOD O (OP 1753)
2. Main Assembly:
Carriage MK 22 MOD 3
3. Sub-Assembly:
Upper Base Ring
4. Part or Piece:
Train Centering Pin (pp. 29-31)
5. Description of Casualty:
Train centering pin was bent in two cases and broken in one case.
6. Conditions Under which Casualty Occurred:
Mount was operated in power while pin was in stowed position. Casualty occurred during exercising when mount was not in a manned condition. (Routine exercising of equipment)
7. Casualty Analysis:
   1. Operator observed mount did not train in power when the one man control deflected.
   2. Realized pin was not released -- attempted to release pin.
   3. Pin would not release -- bent pins.
8. Remedial Action Taken:
First Casualty:
   1. Removed train centering pin mechanism.
   2. Train centering pin noticeably bent. No spares.
   3. Installed unit without pin awaiting replacement which was installed at later date.

Second Casualty:
   1. Bent pin turned down on lathe to remove slight angle.

Third Casualty:
   1. Pin broken off -- damaged housing to extent that it had to be replaced. Replacement pin ordered -- not received. No securing pin on mount as of this date.

9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 30 minutes
10. Cause:
Failure to release securing pin -- personnel carelessness a very definite cause.
11. Remarks and Recommendations:
Installation of micro switches to prevent starting of power drive while train centering pin is in stowing position.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
101.40

1. Major Unit:
3"/50 RFTM MK 27 MOD 0 (OP 1753)
2. Main Assembly:
Carriage MK 22 MOD 3
3. Sub-Assembly:
Elevation lock housing (pp. 28-29)
4. Part or Piece:
Slide elevation lock
5. Description of Casualty:
Elevation lock in secured position when mount was placed in power. Housing was sprung and cracked.
(See Casualty 10.10) -- for reference only.
Note: It appears that power drive was running and the handles of the one-man control unit were deflected.
6. Conditions Under which Casualty Occurred:
Routine exercising of equipment during daily transmission checks -- local surface control.
7. Casualty Analysis:
1. Gun could not be elevated in manual.
2. Lock bolt seemed to be secured -- but a close visual inspection revealed housing to be sprung and cracked.
8. Remedial Action Taken:
1. Released lock bolt manually.
2. No spares -- left it on the mount until ordered replacement was received.
3. Disassembled old housing and mechanism -- inspected parts -- OK.
4. Reassembled in new housing -- installed on mount.
5. Operation satisfactory.
9. Time Involved:
(a) Equipment inoperative: 0 (Gun could be operated)
(b) Actual Repair Work Time: 3 hours.
10. Cause:
Gun elevated while slide elevation lock was not released.
Personnel carelessness a positive cause of casualty.
11. Remarks and Recommendations:
Installation of micro switches to prevent starting of power drive while mount is secured.
Note: This seems to be a rather general Fleet recommendation.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

WEAPON COMPONENT

STAND

STAND: (4)

CASUALTY REPORT FORM

From:
To:

SHIP:

10.11

1. Major Unit:
   3"/50 RFTM MK 33 or MK 27 (OP 1753)
2. Main Assembly:
   Stand
3. Sub-Assembly:
   Positive Limit Stop
4. Part or Piece:
   Train limit pawl (p. 27) (p. 44)
5. Description of Casualty:
   The pawl would slow the mount in train and not stop it. Manually it was difficult to train past the train limit pawl.
6. Conditions Under which Casualty Occurred:
   Routine checking and exercising of mount.
7. Casualty Analysis:
   1. Noticed brief interruption in train in power. As it did this in only one spot in train and the pawl could be heard tripping, it was isolated to the pawl or buffer.
   2. Tried moving the pawl manually. It was difficult.
   3. Disassembled train limit pawl -- burr was discovered on pawl itself.
8. Remedial Action Taken:
   1. Filed and stoned burr down, reassembled and operation mount satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 3 hours
   (b) Actual Repair Work Time: 3 hours
10. Cause:
    Unkown -- suspect damage was done while chipping deck. Since this only happened once, verification was not possible.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

WEAPON COMPONENT

ELEVATING GEAR (3" MK 2 MOD 1)

WEAPON COMPONENT

ELEVATING GEAR (3" MK 4 MOD 1)

WEAPON COMPONENT

TRAINING GEAR (3" MK 2 MOD 1)

TRAINING GEAR: (2)

CASUALTY REPORT FORM

From:
To:

SHIP:
104.1

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1753)
2. Main Assembly:
   Training Gear MK 2 MOD 1
3. Sub-Assembly:
   Power-Off Brake (p. 79, fig. 59)
4. Part or Piece:
   Solenoid (p. 60, fig. 46)
5. Description of Casualty:
   Mount responded sluggishly to movement of one man control.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Checked manual train -- normal.
   2. Checked local train -- sluggish.
   3. Checked operation of power-off brake by closing safety switch and listening for click -- no click apparent. This showed solenoid coil was not energized.
   4. Checked operation of brake release relay (CR-5), (p. 109-110) -- operation satisfactory.
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Battery FT's disassembled power-off brake.
   2. Removed burned out solenoid coil and replaced with one from spares.
   3. Reassembled.
   4. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Burned out solenoid coil of power-off brake.
    Possibly caused by:
    A. Oil leakage through housing.
    B. Brake linkage improperly adjusted.
    C. Water leakage or moisture through solenoid cover.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

TRAINING GEAR: (2)

CASUALTY REPORT FORM

From:
To:

SHIP:
104.2

1. Major Unit:
3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
Training Gear MK 2 MOD 1
3. Sub-Assembly:
Power-Off Brake (p. 79, fig. 59)
4. Part or Piece:
Solenoid Coil (Broken Leads)
5. Description of Casualty:
Mount failed to train in local, local AA, automatic control.
6. Conditions Under which Casualty Occurred:
Firing routine AA practice -- automatic control.
7. Casualty Analysis:
   1. Checked manual train -- normal.
   2. Checked local train -- inoperative, overload relays kicked out.
   3. Reset overload relays and checked operation of power-off brake by listening for "click" when safety switch was closed. No click apparent. This indicated thatbrake was not releasing, due to failure of solenoid to energize.
   4. Checked operation of brake release relay (CR-5) (pp. 109-110) -- operation satisfactory.
   5. Removed solenoid cover from train power-off brake unit. Inspected visually -- found broken leads. (FT3 Supervised by FT1)
8. Remedial Action Taken:
   1. Repaired broken leads and checked operation of brake by closing safety switch and watching operation of solenoid. Operation satisfactory.
   2. Replaced cover.
9. Time Involved:
   (a) Equipment inoperative: 1 1/2 hours
   (b) Actual Repair Work Time: 1 hour
10. Cause:
Vibration due to firing of mount.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

TRAINING GEAR: (2)

CASUALTY REPORT FORM

From:
To:

SHIP:
104.3

1. Major Unit:
   3"/50 RFTM (OP 1753) MK 27 MOD 3
2. Main Assembly:
   Training Gear MK 2 MOD 1
3. Sub-Assembly:
   Power-Off Brake (p. 79, fig. 59)
4. Part or Piece:
   Solenoid Coil (burned out) (p. 79, fig. 59)
5. Description of Casualty:
   Mount failed to train in local, local AA and automatic control.
6. Conditions Under which Casualty Occurred:
   Exercising of equipment during General Quarters.
7. Casualty Analysis:
   1. Checked manual train -- normal.
   2. Checked local train -- inoperative -- overload relays kicked out.
   3. Reset overload relays -- checked operation of power-off brake by listening for click when safety switch was closed. No click apparent. This indicated that brake was not releasing due to failure of solenoid to energize.
   4. Checked operation of brake release relay (CR-5) (pp. 109-110) -- operation satisfactory.
   5. (3"/50 Repair FT's) Removed solenoid cover from train power-off brake unit and inspected visually. Found solenoid to be burned out.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Removed solenoid and replaced with spare.
   2. Checked operation of brake by closing safety switch. Operation satisfactory.
   3. Replaced cover.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Defective material -- insulation on solenoid coil broke down from heat of normal operation.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

TRAINING GEAR: (4)

CASUALTY REPORT FORM

From:
To:

SHIP:
104.4

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Training Gear (p. 86, fig. 63)
3. Sub-Assembly:
   Hand Drive Mechanism (p. 86, fig. 63)
4. Part or Piece:
   Hand Drive Pinion
5. Description of Casualty:
   Square cutout on hand drive pinion for manual drive crank gets spread so as to make it too large for drive crank.
6. Conditions Under which Casualty Occurred:
   During manual training of mount.
7. Casualty Analysis:
   1. Visually inspect hand drive pinion square.
   2. Compare hand drive pinion square with square on manual hand crank -- noted square opening to have become misshaped.

   (GM3 supervised by GM1)
8. Remedial Action Taken:
   1. Disassemble hand drive mechanism.
   2. Remove worn or spread hand drive pinion.
   3. Rebuild spread hand drive pinion, or install new one.
9. Time Involved:
   (a) Equipment inoperative: 5 hours
   (b) Actual Repair Work Time: 1 1/2 hours
10. Cause:
    Manual hand crank is too long, or failure to fully release power-off brake causes excessive mount resistance to hand crank operation -- resulting in casualty.
    Note: Common casualty on many vessels.
11. Remarks and Recommendations:
    Shorten manual hand crank.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

WEAPON COMPONENT

POWER DRIVES

POWER DRIVES: (1)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.5

1. Major Unit:
   3"/50 RFTM Mk 27 MOD 3 (OP 1753)
2. Main Assembly:
   Elevation Receiver Regulator MK 21 MOD 0, 1
3. Sub-Assembly:

4. Part or Piece:
   Synchro Control Transformer (36 Speed) (p. 122, fig. 97)
5. Description of Casualty:
   When mount was thrown into automatic, it would not synchronize with signal from director. Mount would synchronize in multiples of 10° from point of director signal after considerable oscillation around point.
6. Conditions Under which Casualty Occurred:
   On morning transmission checks.
7. Casualty Analysis:
   1. Took readings at terminals TR-12 and TR-13 of train amplifier with Weston Meter to see if the signal was reaching there. It was not. (See p. 141, fig. 108)
   2. Removed cover from elevation receiver regulator terminal box (p. 121) and took reading. Signal was not reaching there. (Voltage reading).
   3. Removed cover from elevation receiver regulator and removed stator leads of control transformer from terminal connections.
   4. Read through stator leads of control transformer and found stator to be open. (Reading taken with ohmmeter.) (There are 3 stator leads).
   5. Found stator was "open" inside of stator casing -- impossible to repair on-board vessel.

   (FT1 supervised by Chief)
8. Remedial Action Taken:
   1. Replaced old control transformer with new one drawn out of ships spares.
   2. Operation satisfactory.
   3. Replaced receiver regulator cover.
9. Time Involved:
   (a) Equipment inoperative: 3 hours
   (b) Actual Repair Work Time: 2 hours
10. Cause:
    An open in stator of synchro control transformer. Defective material broke down under normal operation -- very likely cause.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (2)

CASUALTY REPORT FORM

From:
To:

SHIP:

101. 38

1. Major Unit:
   3"/50 RFTM MK 27 MOD O (OP 1753)
2. Main Assembly:
   Motor-Generator (Amplidyne) Elevation MK 6 MOD O (p. 105, fig. 80)
3. Sub-Assembly:
   Amplidyne Generator
4. Part or Piece:
   Bearing - Generator End
5. Description of Casualty:
   Amplidyne rattled, or vibrated excessively -- causing concern to FT3.
6. Conditions Under which Casualty Occurred:
   Checking amplidyne, because of sound, during daily transmission checks.
7. Casualty Analysis:
   1. Checked bearing -- found bearing at generator end to be bad.
      A. Vibration, excessive, usually indicates bearings are faulty or rotor shaft misaligned or "out of round". A misaligned shaft will usually cause a bearing to become faulty.
      B. Vibration might also be caused by loose flywheel.

      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Remove and replace bearing. (Might be well to check shaft alignment.)
   2. Lubricate.
   3. Check amplidyne operation -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 2 hours
10. Cause:
    Personnel -- lack of lubrication -- caused binding of bearing in this particular case.
11. Remarks and Recommendations:
    Training personnel should be very sure that lubrication is done properly and at specific intervals.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (2)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.6

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Motor-Generator (Amplidyne) MK 6 MOD O (p. 105, fig. 80)
3. Sub-Assembly:
   Elevation Amplidyne - Generator
4. Part or Piece:
   Flywheel
5. Description of Casualty:
   Excessive vibration of amplidyne.
6. Conditions Under which Casualty Occurred:
   Operation of system -- daily transmission checks.
7. Casualty Analysis:
   Excessive noise and vibration occurred when amplidyne was operating. Unbalance of flywheel determined to be cause -- yardman's analysis.
   A. Vibration, excessive, usually indicates bearings are faulty or rotor shaft misaligned or "out of round". A misaligned shaft will usually cause a bearing to become faulty.
   B. Vibration might also be caused by loose flywheel.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Amplidyne disassembled by yard and taken to shop to be rebalanced.
   2. Amplidyne installed.
   3. Tested -- operated satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 2 weeks
   (b) Actual Repair Work Time: 2 weeks
10. Cause:
    Unbalance of flywheel. (Reported by yardmen)
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (2)

CASUALTY REPORT FORM

From:
To:

SHIP:

103.30

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Motor Generator Amplidyne MK 6 MOD O (p. 105, fig. 80)
3. Sub-Assembly:
   Elevation Amplidyne - Motor
4. Part or Piece:
   Fly Wheel (in motor end)
5. Description of Casualty:
   Loud knocking noise in amplidyne during starting and stopping of generator.
6. Conditions Under which Casualty Occurred:
   When start button on mount energized -- during routine daily transmission checks.
7. Casualty Analysis:
   1. Start and stop amplidyne to check source of noise. Located noise at motor end -- removed cooling fan cover.
   2. Checked bearing -- found satisfactory.
   3. Checked shaft alignment -- satisfactory.
   4. Checked flywheel -- found loose -- cause located.
   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Flywheel tightened -- by tightening nut with spanner wrench.
   2. Replaced cover.
   3. Recheck by stopping and starting amplidyne -- operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 2 hours
10. Cause:
    Ships vibration or lack of proper balance in amplidyne -- (Latter could be a factory responsibility).
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (3)

CASUALTY REPORT FORM

From:
To:

SHIP:
104.7

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Elevation Motor (Drive) MK 1 MOD O (p. 96, fig. 73)
3. Sub-Assembly:

4. Part or Piece:
   Insulation on Field Winding
5. Description of Casualty:
   Mount inoperative in elevation. When power was turned "on", elevation fuses in control panel MK 65 MOD O were blown and filaments of 3C23 tubes V 306 and V 307 were burned out (p. 169, fig. 125) in motor field control unit in amplifier MK 40 MOD O.
6. Conditions Under which Casualty Occurred:
   Routine exercising of equipment during daily transmission checks. In local control.
7. Casualty Analysis:
   1. Checked fuses in control panel MK 65. These were found to be blown. Replaced same.
   2. Checked tubes in motor field control unit. Found filaments of 3C23 gas tubes V 306 and V 307 burned out. Replaced same. Tried to elevate gun in local control -- still inoperative. Therefore checking motor would be next logical step.
   3. Tested field winding of elevation motor F1-F2 (Diagram p. 175, fig. 128) which is output of V 306 and V 307, and found field to be grounded.
   4. Notified EM's who retested motor. They found excessive moisture caused insulation of field winding, to become damp and cause grounds.

   (FT3 and FT1 supervised by FTC)
8. Remedial Action Taken:
   1. EM's disassembled motor from mount and placed it in oven to dry out insulation.
   2. When motor insulation completely dry, reassembled on mount. Tested and operation found satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 3 days
   (b) Actual Repair Work Time: 6 hours
10. Cause:
    Moisture in elevation motor insulation.
11. Remarks and Recommendations:
    Mount is on forcastle where it is subject to excessive water and spray.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (4)

CASUALTY REPORT FORM

From:
To:

SHIP:
104.8

1. Major Unit:
3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
Train Receiver Regulator MK 29 (p. 115, fig. 90) (p. 116, fig. 91)
3 Sub-Assembly:

4. Part or Piece:
Synchro Control Transformer (36 Speed) (p. 116, fig. 91)
5. Description of Casualty:
Mount would not synchronize with director signal -- automatic control. Mount would synchronize in multiples of 10° from point of director signal after considerable oscillating around point.
6. Conditions Under which Casualty Occurred:
On morning transmission checks.
7. Casualty Analysis:
   1. Took readings at erminals TR-12 and TR-13 of train amplifier with Weston Meter to see if the signal was reaching there. It was not. (See p. 136, fig. 105)
   2. Removed cover from elevation receiver regulator terminal box and took reading. Signal was not reaching there (voltage reading).
   3. Removed cover from elevation receiver regulator and removed stator leads of control transformer from terminal connections.
   4. Read through stator leads of control transformer and found stator to be open. (Reading taken with ohmmeter.) (There are 3 stator leads.)
   5. Found stator was "open" inside of stator casing -- impossible to repair on-board vessel.

(FT1 supervised by Chief)

8. Remedial Action Taken:
   1. Replaced faulty synchro control transformer with new one drawn from ships spares.
   2. Operation satisfactory.
   3. Replaced receiver regulator cover.
9. Time Involved:
   (a) Equipment inoperative: 3 hours
   (b) Actual Repair Work Time: 2 hours
10. Cause:
Open in stator of synchro control transformer. Defective material broke down under normal operation.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (4)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.9

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Train Receiver Regulator MK 29 (p. 115, fig. 90) (p. 116, fig. 91)
3. Sub-Assembly:

4. Part or Piece:
   Parallax Limit Stops (Tube 3C23)
5. Description of Casualty:
   Parallax dial was in the extreme right (or left) reading.
6. Conditions Under which Casualty Occurred:
   On morning transmission checks.
7. Casualty Analysis:
   1. Inspected parallax amplifier visually and found that one 3C23 was not firing (p. 178, fig. 130).
   2. Replaced bad tube and energized circuit. Tube still did not fire.
   3. Removed cover from train receiver regulator and drove parallax out of stops by rotating change gears by hand (p. 115, fig. 90). It seemed that parallax limit switches were "sticking".

   *Note: Normally parallax will work properly after this operation, but in some cases one of the two switches on the parallax limit stops (p. 116, fig. 91) will stick and keep the circuit inoperative.
   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced faulty 3C23 in parallax amplifier. (See above.)
   2. Drove parallax out of stops at change gears (p. 115, fig. 90).
   3. Operation satisfactory.

   *Note: Where limit switch was stuck in stop -
   1. Remove cover from train receiver regulator (back cover).
   2. Remove parallax limit stop and free stuck switch.
   3. Install limit stops.
   4. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Faulty 3C23 in parallax amplifier and switches.
11. Remarks and Recommendations:
    The 3C23 has a short life so it is almost always found to be the casualty when the parallax is in the stops.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (4)

CASUALTY REPORT FORM

From:
To:

SHIP:
101.31

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Train Receiver Regulator MK 29 MOD O (p. 114, flg. 89)
   (p. 115, fig. 90) (p. 116, fig. 91)
3. Sub-Assembly:
   Parallax Stabilizing Tachometer Generator 3919 Speed
   (Unit K in Receiver Regulator)
4. Part or Piece:
   Commutator
5. Description of Casualty:
   Parallax dials oscillated when in any control.
   Noted mainly in automatic.
   (Mount oscillated slowly, both directions, in train).
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Visual check of oscillation.
   2. Followed trouble analysis procedure - OP 1753 (p. 223)
      (Parallax motor oscillates about the correspondence point.)
   3. Step 1 -- no voltage at PX5 and PX6. (These two terminal points are on parallax amplifier -- in amplifier cabinet MK 40 MOD O.)
   4. Indicated an open circuit from parallax tachometer -- noted dirt on commutator -- also one brush not making proper contact.
      (FT2 supervised by FT1)
8. Remedial Action Taken:
   1. Cleaned commutator.
   2. Adjusted brush.
   3. Checked mount operation in automatic -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 1/2 hours
   (b) Actual Repair Work Time: 1 1/2 hours
10. Cause:
    Water and dirt seeping through cover. Spring on brush corroded -- material.
11. Remarks and Recommendations:
    Recommendations -- replace gaskets on train receiver regulator covers to insure water tightness. Gasket used at present not satisfactory.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (4)

CASUALTY REPORT FORM

From:
To:

SHIP:
103.43

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Train Receiver Regulator MK 29 MODS (p. 115, fig. 90) (p. 116, fig. 91)
3. Sub-Assembly:
   Stabilizing Tachometer Generator (p. 114, fig. 89)
4. Part or Piece:
   Wires (Schematic) (p. 118, fig. 93) - (Reference)
5. Description of Casualty:
   Mount ran into limit stops at high rate of speed -- in both controls.
6. Conditions Under which Casualty Occurred:
   Routine exercising of equipment during daily transmission checks.
7. Casualty Analysis:
   1. Visual check of mount operation -- note above.
   2. Checked output of limit synchro -- with voltmeter -- in both directions -- satisfactory.
   3. Checked tubes in train amplifier, power supply, and motor field control unit -- with OZ1 tester (to check signal) -- satisfactory.
   4. Checked outputs of stabilizing circuits -- with OCR-1 portable volt-ohms meter (p. 286, fig. 171) -- found output of stabilizing tachometer generator to be low -- circuit grounded to mount. This was caused by dampness in 120 wire box (p. 286, fig. 171)
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Dried box -- with electric blower.
   2. Checked circuits with OCR-1 to see if circuits were clear -- results satisfactory.
   3. Operated mount -- results satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 4 hours
   (b) Actual Repair Work Time: 4 hours
10. Cause:
    Moisture -- due to faulty gasket.
11. Remarks and Recommendations:
    Replace gaskets in 120 wire box -- if necessary, to eliminate moisture seepage.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (4)

CASUALTY REPORT FORM

From:
To:

SHIP:

103.42

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Train Receiver Regulator MK 29 MOD O (p. 115, fig. 90) (p. 116, fig. 91)
3. Sub-Assembiy:
   Parallax Receiver Section (p. 114, fig. 89)
4. Part or Piece:
   Bakelite Arm which actuates Limit Stop (Micro-switch)
5. Description of Casualty:
   Parallax dial reading not correct. This noted during transmission checks -- parallax dial would not answer signal.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Check parallax fuse (p. 180, fig. 131) -- fuse satisfactory -- visual check.
   2. Change position of mount selector switch to station not transmitting parallax. Parallax failed to drive to zero.
   3. Remove cover of train receiver regulator and attempted to drive parallax back to zero -- unsuccessful (screw driver).
   4. Checked limit switches -- found left limit switch jammed. Bakelite arm, which actuates switch, jammed between end-play washers.

   (FT3 supervised by FT1)

   Note: Parallax signal being transmitted to drive motor -- overheated motor and caused burning of motor -- insulation.
8. Remedial Action Taken:
   1. Removed bakelite arm.
   2. Rub down on emery paper to reduce thickness -- to provide clearance.
   3. Reassembled.
   4. Checked operation -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 2 hours
10. Cause:
    Moisture - (it appeared to be) -- once corrected, it did not reoccur.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:

101. 32

1. Major Unit:
   3"/50 RFTM MK 27 MOD O (OP 1753)
2. Main Assembly:
   Train Receiver Regulator MK 29 MOD O (p. 115, fig. 90) (p. 116, fig. 91)
3. Sub-Assembly:
   Parallax Follow-up Motor (p. 114, fig. 89)
4. Part or Piece:
   Motor (continually blowing fuses) field winding shorted.
5. Description of Casualty:
   Continually blowing fuses in parallax circuit -- under any type of automatic operation.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Ran resistance checks throughout parallax system -- with ohmmeter -- field windings of parallax follow-up motor shorted. (Reference p. 118, fig. 93.)
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Removed and replaced follow-up motor.
   2. Check out system -- to see if parallax system operating -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 2 hours
10. Cause:
    Salt spray gets into regulator cover and shorted out leads in most cases. Faulty or worn gaskets in other cases.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (5)

CASUALTY REPORT FORM

From:
To:

SHIP:

10.4

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1753)
2. Main Assembly:
   Motor-Generator (Amplidyne) (Train) MK 6 MOD O
   (p. 105, fig. 80)
3. Sub-Assembly:
   Amplidyne-Generator
4. Part or Piece:
   Armature (shorted)
5. Description of Casualty:
   1. Mount ran away to the right as soon as dead man's key (safety switch) was closed in all controls. (Local surface or local AA).
6. Conditions Under which Casualty Occurred:
   During routine exercising of equipment.
7. Casualty Analysis:
   1. Checked signal through train amplifier. Checks OK. (p. 136, fig. 105)
   2. Ran ground tests and continuity tests on leads from amplidyne to drive motor -- checked satisfactory.
   3. Hooked train amplidyne generator to elevation drive motor. Elevation ran into stops. This indicated train amplidyne generator transmitting signal for right train when signal should be zero.
      (FT1 supervised by FTC)
8. Remedial Action Taken:
   1. Replaced amplidyne with new one. (Impossible to repair aboard vessel.)
   2. FCC and FC1 personnel from Guantanamo -- found armature shorted.
9. Time Involved:
   (a) Equipment inoperative: 2 weeks
   (b) Actual Repair Work Time: 80 hours
10. Cause:
    Defective Amplidyne
11. Remarks and Recommendations:
    Letter was published later, that number of amplidynes were defective when manufactured.

Signed: _____
(Gunnery Officer)

J--942
CRF-1

POWER DRIVES: (5)

CASUALTY REPORT FORM

From:
To:

SHIP:

102.15

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1753)
2. Main Assembly:
   Motor-Generator (Amplidyne) (Train) MK 6 MOD O (p. 105, fig. 80)
3. Sub-Assembly:
   Amplidyne-Generator
4. Part or Piece:
   Armature
5. Description of Casualty:
   Mount responds very sluggishly in local control. It would have been sluggish in any control.
6. Conditions Under which Casualty Occurred:
   Daily transmission check.
7. Casualty Analysis:
   1. Visual check of operation of mount -- noted sluggish operation.
   2. Changed train amplifier to localize trouble -- operation still sluggish.
   3. Disconnect output of elevation generator and disconnected output of train generator, and switch connections of elevation generator to train motor. To analyze casualty on mount drive -- was it mount or was it amplidyne -- operation satisfactory.
   4. Reconnect properly - and measured output of train amplidyne generator (OP 1753, p. 137, fig. 106) - with DC voltmeter. Found voltage to be approximately 50 volts at maximum input signal from local control. Trouble located -- maximum output should be 250 volts. Armature was burned.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced armature.
   2. Adjusted for correct voltage across quadrant field. (26 volts). TR 26-27, TR 27-28. (p. 136, fig. 105). Mount must be synchronized and in automatic.
   3. Mount operated satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 1/2 days
   (b) Actual Repair Work Time: 1 day
10. Cause:
    Insufficient insulation on rotor -- it appeared to be.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (5)

CASUALTY REPORT FORM

From:
To:

SHIP:

101.37

1. Major Unit:
   3"/50 RFTM MK 27 MOD 0 (OP 1753)
2. Main Assembly:
   Motor-Generator (Amplidyne) (Train) MK 6 MOD 0
   (p. 105, fig. 80)
3. Sub-Assembly:
   Amplidyne-Generator
4. Part or Piece:
   Field Windings
5. Description of Casualty:
   No power in train -- under any control (Local or automatic).
   Satisfactory operation in elevation in local and automatic.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Visual check of train amplifier -- found resistors R-189, R-190 burned. Replaced same -- burned out again. (p. 136, fig. 105)
   2. Above indicated trouble in control field -- found field of generator was shorted -- ordered replacement.
   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Removed and replaced amplidyne.
   2. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 2 months (Unable to obtain new generator.)
   (b) Actual Repair Work Time: 10 hours
10. Cause:
    Appeared to be caused by faulty insulation.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J--942
CRF-1

POWER DRIVES: (5)

CASUALTY REPORT FORM

From:
To:

SHIP:

101.27

1. Major Unit:
   3"/50 RFTM MK 27 MOD 0 (OP 1753)
2. Main Assembly:
   Train Amplidyne MK 6 MOD 0
   Amplifier MK 40 MOD 0
3. Sub-Assembly:
   Parallax Amplifier
   Train Amplifier
4. Part or Piece:
   Brushes on Amplidyne (R-189, R-190) (p.136, fig. 105)
5. Description of Casualty:
   No left train signal -- in local or automatic. Mount ran away to right. Mount ran into mechanical stops -- drove through limit stops.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. With manual hand crank, drive mount out of limit stops. Now mount is away from limit stops preventing limit stops from interfering with error signal.
   2. Visual inspection of train amplifier -- noted R-189 and R-190 were burned.
   3. Replaced R-189 and R-190 -- operation still not satisfactory.
   4. Checked train amplidyne generator -- found brushes arcing -- also noted fuse holder in parallax amplifier grounded.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced brushes and adjusted spring tension.
   2. Replaced fuse holder.
   3. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 4 hours
   (b) Actual Repair Work Time: 4 hours
10. Cause:
    It appeared that arcing of brushes on train amplidyne was the cause.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (5)

CASUALTY REPORT FORM

From:
To:

SHIP:

103.31

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Motor Generator (Amplidyne) (Train) MK 6 MOD O (p. 105, fig. 80)
3. Sub-Assembly:
   Amplidyne Generator
4. Part or Piece:
   Bearing (Generator end)
5. Description of Casualty:
   Operation of mount - train, in local and automatic, was very rough.
6. Conditions Under which Casualty Occurred:
   Routine maintenance - or daily transmission checks.
7. Casualty Analysis:
   1. Check mount operation -- noted above.
   2. Checked tubes in train amplifier, power supply, and motor field control unit - OZ-1. (This is done to check signal) -- satisfactory.
   3. Checked train-amplidyne generator -- noted grease broken down in generator end.
   4. Inspected bearing -- bearing worn -- causing breakdown of grease.
      (FT3 supevised by FT1)
8. Remedial Action Taken:
   1. Replaced bearing with spare --- and greased.
   2. Ran amplidyne generator for 1/2 hour.
   3. Operated mount -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 2 days
   (b) Actual Repair Work Time: 8 hours
10. Cause:
    Faulty bearing -- in this particular case.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (5)

CASUALTY REPORT FORM

From:
To:

SHIP:

103.32

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Motor-Generator (Amplidyne) (Train) MK 6 MOD O (p. 105, fig. 80)
3. Sub-Assembly:
   Amplidyne Generator
4. Part or Piece:
   Commutator Brushes
5. Description of Casualty:
   Mount very erratic in train -- in both controls (local and automatic).
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Checked mount operation -- noted above.
   2. Checked tubes in train amplifier, power supply, and motor field control unit tubes. (This done to check signal) -- satisfactory.
   3. Checked train-amplidyne generator -- visual -- noted badly worn brushes (4 brushes) and dirty commutator.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Clean commutator and replaced brushes.
   2. Run brushes in for 1 hour.
   3. Operated mount -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 day
   (b) Actual Repair Work Time: 3 hours
10. Cause:
    Normal brush wear.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (5)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.10

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Motor Generator (Amplidyne) (Train) MK 6 MOD O (p. 105, fig. 80)
3. Sub-Assembly:
   Amplidyne Generator
4. Part or Piece:
   Flywheel
5. Description of Casualty:
   Vibration and excessive noise while amplidynes were running.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Excessive noise and vibration occurred when amplidyne was running.
   2. Unbalance of flywheel determined to be cause, by yard workmen.
8. Remedial Action Taken:
   Amplidyne disassembled by yard and taken to shop to re-balance.
9. Time Involved:
   (a) Equipment inoperative: 2 weeks
   (b) Actual Repair Work Time: 2 weeks
10. Cause:
    Unbalance of flywheel.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (7)

CASUALTY REPORT FORM

From:
To:

SHIP:

103.22

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Motor Field Control Unit (p. 169, fig. 125)
4. Part or Piece:
   Tube V-305 (6SL7)
5. Description of Casualty:
   Mount responded erratically in train -- in local control.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Visual check of mount operation -- noted above.
   2. Check tubes in train amplifier, motor field control unit and power supply, OZ1 tester, found faulty tube -- as noted above. (Checking signal from amplifier to amplidyne generator, etc.)
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replace tube.
   2. Balance amplifier.
   3. Checked mount operation -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Life of tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (7)

CASUALTY REPORT FORM

From:
To:

SHIP:

101.29

1. Major Unit:
   3"/50 RFTM MK 27 MOD O (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p.107, fig. 81)
3. Sub-Assembly:
   Motor Field Control Unit (p. 169, fig. 125)
4. Part or Piece:
   Tube V-306 (3C23)
5. Description of Casualty:
   Mount would not train or gun elevated in either local or automatic control.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Visual check of casualty by FT2 -- noted above.
   2. Checked tubes in train and elevation amplifiers -- tubes checked satisfactory.
   3. Checked tubes in motor field control section -- tube V-306 did not have a blue glow and is common to both train and elevation.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replace tube V-306 (3C23)
   2. Check mount operation -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 30 minutes
10. Cause:
    Life of tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (7)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.11

1. Major Unit:
   3"/50 RF/TM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Motor Field Control Unit (p. 169, fig. 125)
4. Part or Piece:
   Gas 3C23 Tube V-308
5. Description of Casualty:
   Mount responded sluggishly to movements of local station when slewing.
6. Conditions Under which Casualty Occurred:
   AA training drills.
7. Casualty Analysis:
   1. Checked mount operation in slower speed - satisfactory.
   2. Checked mount operation in high (slew) speed -- sluggish in all power modes.
   3. Visually inspected motor field control unit in amplifier MK 40 MOD O and found a gas (3C23) tube V-308 filament burned out.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced with new tube.
   2. Checked mount operation in fast and slow speeds -- result satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1/2 hour
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    Filaments burned out of a 3C23 gas tube -- life of tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-I

POWER DRIVES: (8)

CASUALTY REPORT FORM

From:
To:

SHIP:

103.23

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Parallax Amplifier Unit
4. Part or Piece:
   Tube V-405 (3C23) (p. 180, fig. 131)
5. Description of Casualty:
   No parallax being received at mount, in train, in automatic control. Mount not being offset from error signal to correct for parallax.
6. Conditions Under which Casualty Occurred:
   Daily transmission check.
7. Casualty Analysis:
   1. Visual check of parallax unit -- noted: transmitted parallax was not being received.
   2. Check fuse and tubes -- found V-405 (3C23) faulty. (Used tube tester).

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced tube.
   2. Checked operation of parallax unit -- by transmitting signal -- satisfactory.
   3. Mount operation -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Life of tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (8)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.12

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Parallax Amplifier Unit (p. 180, fig. 131)
4. Part or Piece:
   Gas Tube 3C23
5. Description of Casualty:
   Parallax dial would drive into the right (or left) limit stops.
6. Conditions Under which Casualty Occurred:
   During morning transmission checks.
7. Casualty Analysis:
   1. Visual inspection of parallax amplifier showed that tube was not firing.
   2. Replace defective tube.
   3. Energize system and parallax will drive to proper transmitted reading. (This is analysis to determine if there are other causes.)
      (FT 3 supervised by FT1)

   Note: In the event that it will not drive out of stops, remove small cover from face of train receiver regulator and turn out of stops by hand at change gears with screwdriver (slot is provided for screwdriver).
8. Remedial Action Taken:
   1. Replaced defective tube.
   2. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 15 minutes
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    Defective tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (8)

CASUALTY REPORT FORM

From:
To:

SHIP:
103.27

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Parallax Amplifier Unit (p. 180, fig. 131)
4. Part or Piece:
   Fuse (5 Amp.)
5. Description of Casualty:
   1. Parallax not being received at mount, in automatic control.
6. Conditions Under which Casualty Occurred:
   Daily transmission check.
7. Casualty Analysis:
   1. Checked fuse in parallax amplifier. Found it to be faulty. This should be the first step in analysis. (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced fuse.
   2. Tested operation of parallax -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1/2 hour
   (b) Actual Repair Work Time: 1/2 hour
10. Cause:
    Might be an overload -- due to binding of parallax receiving unit.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (8)

CASUALTY REPORT FORM

From:
To:

SHIP:

101.26

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD C (p. 107, fig. 81)
3. Sub-Assembly:
   Parallax Amplifier Unit (p. 180, fig. 131)
4. Part or Piece:
   Fuse (5 Ampere)
5. Description of Casualty:
   No synchro supply for parallax -- for this mount.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. We can isolate casualty to this mount because parallax signals from director were received at other mounts.
   2. Checked parallax amplifier -- visually -- tubes were not energized.
   3. Checked fuse -- visual -- found to be blown.
   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced fuse.
   2. Synchro supply for parallax was received -- operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 15 minutes
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    Might be an overload due to binding of parallax receiving unit.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (9)

CASUALTY REPORT FORM

From:
To:

SHIP:

103.24

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Train-Amplifier Unit (p. 136, fig. 105)
4. Part or Piece:
   R-167, R-168, R-189, R-139 and tube 6SL7 burned.
5. Description of Casualty:
   Mount inoperative in train - local and automatic.
   Gun operates satisfactory in elevation.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Visual check of operation - above noted.
   2. Checked all tubes - with OZ1 -- tube 6 SL 7 faulty. Replaced tube and tried to balance amplifier -- not accomplished.
   3. Replaced amplifier and balance replaced one.
   4. Try mount for operation -- mount operated satisfactory.
   5. Visual inspection of old amplifier -- noted burned resistors -- trouble located.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced resistors -- replaced amplifier unit.
   2. Operated mount -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Faulty tube drawing too much current.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (9)

CASUALTY REPORT FORM

From:
To:

SHIP:
103.25

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Train-Amplifier Unit (p. 136, fig. 105)
4. Part or Piece:
   R-167, R-168 (burned)
5. Description of Casualty:
   Mount would not train in local or automatic.
   Gun operates satisfactory in elevation.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Visual check of mount operation -- above noted.
   2. Checked all tubes in train amplifier with OZ1 tube tester -- tubes satisfactory.
   3. Substituted new amplifier -- system operated satisfactorily -- trouble localized.
   4. Visual inspection indicated burned resistors in amplifier. (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced resistors. Replaced and balanced amplifier.
   2. Operated mount -- satisfactory in both controls.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Resistors broke down under excessive loads.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (9)

CASUALTY REPORT FORM

From:
To:

SHIP:

102.14

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Train-Amplifier Unit (p. 136, fig. 105)
4. Part or Piece:
   R-277
5. Description of Casualty:
   Erratic oscillation in train -- in local and automatic.
   Gun operates satisfactory in elevation.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Visual check of casualty -- no control of mount in any control.
   2. Replaced train amplifier -- to locate casualty -- operation satisfactory.
   3. Checked all tubes with tube tester (TV-3AU) (fig. 136) -- found no casualty.
   4. Replaced amplifier so as to get proper voltage -- 600 DC across TR29 and TR30 -- results satisfactory (to check input).
   5. Measured voltage across TR19 to ground -- for + 265 volts (DC) -- results satisfactory (to check input).
   6. Checked TR 18 to ground, for - 170 volts (DC). Results satisfactory. (To check input).
   7. Measured voltage across R-277 and found O voltage -- indicating R-277 open. Located trouble.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced R-277 and replaced amplifier.
   2. Rebalance R-277 and measure voltage across TR30 to ground to get + 155 volts (DC).
   3. Checked operation --- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 6 hours
   (b) Actual Repair Work Time: 2 hours
10. Cause:
    R-277 (life)
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (9)

CASUALTY REPORT FORM

From:
To:

SHIP:

101.25

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Train Amplifier Unit (p. 136, fig. 105)
4. Part or Piece:
   Synchronizing Relay - K102 (p. 212) (Affected by Tube V109)
5. Description of Casualty:
   When mount was placed in automatic, mount will move to correspondence point but will not "snap in". Indicated amplifier out of balance. Train dials may or may not read same as computer dials. (Within 15-20 minutes).
   Gun operates satisfactory in elevation.
6. Conditions Under which Casualty Occurred:
   Routine transmission checks -- daily -- automatic from SKY 4.
7. Casualty Analysis:
   1. FC2 checked -- visually -- to note casualty -- if possible.
   2. Used AC voltmeter to balance train amplifier -- see balance procedure OP 1753, (p. 201) (OP calls for using oscilloscope -- but FC2 recommends AC voltmeter -- easier to handle).
   3. Mount still did not operate properly when amplifier was balanced. Indicated weak tube. Checked and replaced V-105. V-109 checked OK. By replacing these tubes, the synchronizing relay would pick up faster because signal from V-109 feeds relay K-102.
      (FC2 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced tubes -- indicated.
   2. Rebalanced train-amplifier (amplifier must be balanced or rebalanced after any tubes have been replaced.)
   3. Operated mount -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1st time 2 hours, 15 minutes
   other times.
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    For tubes -- normal life.
    For balance -- any changes in weather temperature (or) not periodic operation.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (9)

CASUALTY REPORT FORM

From:
To:

SHIP:

102.13

1. Major Unit:
   3"/50' RFTM MK 33 MOD O (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Train Amplifier Unit (p. 136, fig. 105)
4. Part or Piece:
   Tube V11[illegible] -
5. Description of Casualty:
   No control of mount -- in train -- in local or automatic.
   Gun operates satisfactory in elevation.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Visual check of casualty -- no control of mount in any control.
   2. Check with tube tester. (TV 3AU) V-113, V-114 which are 807 - (in train amplifier) - to localize casualty. One shorted filament in Tube V-113.
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced tube and rebalanced amplifier.
   2. Operated -- found satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    Life of tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (9)

CASUALTY REPORT FORM

From:
To:

SHIP:
103.26

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Train-Amplifier Unit (p. 136, fig. 105)
4. Part or Piece:
   T-105, T-106, K-101
5. Description of Casualty:
   Mount inoperative in train - in local and automatic.
   Gun operates satisfactory in elevation.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis: (one method)
   1. Visual check of mount operation -- above noted.
   2. Test all tubes in train-amplifier, with OZ1 tube tester -- noted all tubes OK.
   3. Substitute new amplifier -- equipment operative -- trouble localized.
   4. Run voltage checks on amplifier - 115 V - 60 cycle -- found circuit to be low.
   5. Disconnect 115 volt to amplifier -- run continuity check (check on internal circuit in amplifier) -- circuit appeared to be OK.
   6. Run resistance to ground check -- found circuit grounded in amplifier.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced section of wire between terminals - T-105 terminal 1, and T-106 terminal 2.
   2. Check operation of mount in local -- satisfactory.
   3. Check operation of mount in automatic -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 day
   (b) Actual Repair Work Time: 2 hours
10. Cause:
    Broken insulation.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (9)

CASUALTY REPORT FORM

From:
To:

SHIP:
104.17

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Train Amplifier Unit (p. 136, fig. 105)
4. Part or Piece:
   Vacuum Tube 807 (V-113, V-114) (p. 136, fig. 105)
5. Description of Casualty:
   Mount operates normally in train in all respects and then drifts off in one direction. After mount sets for a short time it will again work normally and then drift off again. Gun operates satisfactory in elevation.
6. Conditions Under which Casualty Occurred:
   When at General Quarters.
7. Casualty Analysis:
   1. Mount acts the same in local surface, local AA, and automatic. Therefore the trouble will be in the train amplifier.
   2. Hook up balance meters and test.
   3. Amplifier will balance out properly.
   4. When the 807 breaks down, the reading on the meter that is connected to that side of the circuit will drop to "O" output and the other meter will raise to approximately 80 milliamps.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced faulty 807 vacuum tube.
   2. Balance out circuit.
   3. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 30 minutes
10. Cause:
    Break down of 807 vacuum tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (9)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.18

1. Major Unit:
   3"/50 RFTM MK 27 MOD O (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Train Amplifier Unit (p. 136, fig. 105)
4. Part or Piece:
   Vacuum Tube 6H6/GT - Speed and Position Limit V-108
5. Description of Casualty:
   Mount trains at excessive speed in local control -- normal in automatic. Gun operates satisfactory in elevation.
6. Conditions Under which Casualty Occurred:
   Morning transmission checks and normal operation.
7. Casualty Analysis:
   1. Checked mount in all manners of control and found that only local surface and local AA were defective in control. Automatic operated properly.
   2. Set up amplifier for balancing (p. 195).
   3. Amplifier may be balanced with limit tubes removed.
   4. Replaced limit tubes. Defective tube caused meters to change in their readings. Defective tube.
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced defective tube.
   2. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 20 minutes
10. Cause:
    Defective limit tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (9)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.19

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Train Amplifier Unit (p. 136, fig. 105)
4. Part or Piece:
   V-109 (p. 148, fig. 112) (6SL7 GT)
5. Description of Casualty:
   Mount would not synchronize in train in automatic. Would drive around with coarse automatic signal but failed to pick up fine (36 speed) signal.
6. Conditions Under which Casualty Occurred:
   Daily transmission check.
7. Casualty Analysis:
   1. Checked mount for synchronization with 2 directors. Would not synchronize.
   2. Checked relay K102 to see if it was picking up by listening for "Click" when mount neared 2° from correspondence point -- no click apparent. This meant the relay was not picking up.
   3. Checked the tube that controls relay K102 with OZ1 tube tester. Found to be defective.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced tube V-109 (6SL7 GT) with spare.
   2. Operation of mount normal.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 45 minutes
10. Cause:
    Defective 6SL7 GT tube V-109 in train amplifier.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (9)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.20

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Train Amplifier Unit (p. 136, fig. 105)
4. Part or Piece:
   Synchronizing Circuit (Transformer T-103) (p. 148, fig. 112)
5. Description of Casualty:
   Mount would not synchronize in train to correct signal from director but would synchronize in 10° steps from correspondence point. Gun operates satisfactory in elevation.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Checked local train -- normal.
   2. Checked automatic -- would not synchronize at correspondence point, but would synchronize at 10° away.
   3. Checked tubes in synchronizing circuit of train amplifier -- all found to be satisfactory.
   4. Removed amplifier from amplifier cabinet MK 40 MOD O chassis and checked component parts. (Tube tester, etc.)
   5. Found primary of T-103 in synchronizing circuit was open.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced transformer T-103 with spare from G.S.K.
   2. Replaced train amplifier in amplifier cabinet MK 40 MOD O chassis.
   3. Checked mount operation -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 4 hours
   (b) Actual Repair Work Time: 2 hours
10. Cause:
    Open primary of transformer T-103 in synchronizing circuit of train amplifier -- due to excessive heat.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-I

POWER DRIVES: (9)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.16

1. Major Unit:
   3"/50 RFTM MK 27 MOD O (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Train Amplifier Unit (p. 136, fig. 105)
4. Part or Piece:
   Vacuum Tube 6H6/GT Rectifier V-102 V-103
5. Description of Casualty:
   Mount would run in train at speeds below normal -- both local and automatic. Gun operates satisfactory in elevation.
6. Conditions Under which Casualty Occurred:
   Morning transmission checks and normal operation.
7. Casualty Analysis:
   1. Checked mount in train from all manners of control and found it to act the same from each.
   2. Set up amplifier for balancing (p. 195)
   3. Amplifier would not balance out properly.
   4. Obtained tube tester from ET's and found defective tube.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced defective tube -- rebalanced amplifier.
   2. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 20 minutes
10. Cause:
    Defective Rectifier Tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (9)

CASUALTY REPORT FORM

From:
To:

SHIP:
104.13

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Train Amplifier Unit (p. 136, fig. 105)
4. Part or Piece:
   Current Limit Tube 6H6/GT V-107 (p.136, fig. 105)
5. Description of Casualty:
   Mount will travel in train at excessive speeds.
   Gun operates satisfactory in elevation.
6. Conditions Under which Casualty Occurred:
   During normal operation, morning transmission checks.
7. Casualty Analysis:
   1. Checked mount, in train, in all manners of control and found that it acted the same from each.
   2. Set up amplifier for balancing (p. 195) Amplifier may be balanced when current limit tubes are removed.
   3. When amplifier is properly balanced replace tubes in limit circuit one at a time.
   4. The tube that causes a change in the meter reading will be defective. Tube, noted above, found defective. (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced defective tube -- rebalanced amplifier.
   2. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 20 minutes
   (b) Actual Repair Work Time: 20 minutes
10. Cause:
    Defective limit tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (9)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.15

1. Major Unit:
   3"/50 RFTM MK 27 MOD O (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Train Amplifier Unit (p. 136, fig. 105)
4. Part or Piece:
   Rectifier Tube 6H6/GT V111 V112
5. Description of Casualty:
   Mount runs away in train, when dead man key (safety switch) is closed.
   Gun operates satisfactory in elevation.
6. Conditions Under which Casualty Occurred:
   Morning transmission checks and normal operation.
7. Casualty Analysis:
   1. Checked mount, in train, from all control stations and found it to act the same from each.
   2. Set up amplifier for balancing. (p. 195)
      Found amplifier to be greatly out of balance.
   3. Obtained tube tester from ET's and found defective tube, noted above.
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced defective tube -- rebalanced amplifier.
   2. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 20 minutes
10. Cause:
    Defective Rectifier Tube
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (9)

CASUALTY REPORT FORM

From:
To:

SHIP:
104.14

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Train Amplifier Unit (p. 136, fig. 105)
4. Part or Piece:
   Thyrite Resistors
5. Description of Casualty:
   Mount responds violently, in train, to automatic gun orders and to one man control units. Will not lock into automatic properly.
   Gun operates satisfactory in elevation.
6. Conditions Under which Casualty Occurred:
   During tracking drills.
7. Casualty Analysis:
   Thyrite resistors may be inspected visually.
   1. Evidence of overheating is solder melted out of caps on end of the resistor.
   2. Resistors may be read through with ohmmeter to see if they are giving proper resistance.
   3. Resistors were not reading high enough resistance.
   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced two thyrite resistors.
   2. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 1 1/2 hours
10. Cause:
    Faulty thyrite resistors.
11. Remarks and Recommendations:
    In many instances mounts are put into automatic with ranges beyond 20,000 yards. At that range the slightest oscillation in the director will cause the mounts to oscillate violently, overloading the amplidynes and causing the thyrite resistors to burn out. Proper instruction to control officers would prevent this.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (10)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.21

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Elevation Amplifier Unit (p. 141, fig. 108)
4. Part or Piece:
   V-202 6SL7GT (p. 149, fig. 113)
5. Description of Casualty:
   Gun would not synchronize, in elevation, in automatic. Would drive around near correspondence point with coarse (1 speed) signal but failed to pick up fine (36 speed).
6. Conditions Under which Casualty Occurred:
   Daily transmission check.
7. Casualty Analysis:
   1. Checked gun for synchronization ---would not synchronize.
   2. Checked relay K202 for proper operation by listening for "click" when mount neared 2° of correspondence. No click apparent.
   3. Replaced the tube (with spare) that controls relay K202 and relay acted normal.
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced 6SL7GT tube V-202 in elevation amplifier -- balanced.
   2. Checked synchronization of mount -- normal.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 45 minutes
10. Cause:
    Defective 6SL7GT tube V-202 in elevation amplifier (life of tube).
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (10)

CASUALTY REPORT FORM

From:
To:

SHIP:
104.22

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Elevation Amplifier Unit (p. 141, fig. 108)
4. Part or Piece:
   Thyrite Resistor
5. Description of Casualty:
   Gun responds violently, in elevation, to automatic gun orders and to one man control units.
   Will not lock into automatic properly.
6. Conditions Under which Casualty Occurred:
   During tracking drills.
7. Casualty Analysis:
   Thyrite Resistors may be inspected visually.
   1. Evidence of overheating is solder melted out of caps on ends of resistor.
   2. Resistors may be read through with ohmmeter to see if they are giving proper resistance.
   3. Resistors were not reading high enough resistance.
   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced thyrite resistors -- rebalance amplifier.
   2. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 1 1/2 hours
10. Cause:
    Faulty thyrite resistors.
11. Remarks and Recommendations:
    In many instances mounts are put into automatic with ranges beyond 20,000 yards. At that range the slightest oscillation in the director will cause the mounts to oscillate violently, overloading the amplidynes, and causing the thyrite resistors to burn out. Proper instruction to control officer would prevent this.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (10)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.23

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Elevation Amplifier Unit (p. 141, fig. 108)
4. Part or Piece:
   Vacuum Tube 6H6/GT Rectifier V-202 V-203
5. Description of Casualty:
   Gun would run, in elevation, at speeds below normal.
6. Conditions Under which Casualty Occurred:
   Morning transmission checks and normal operation.
7. Casualty Analysis:
   1. Checked gun from all sources of control and found that it acted the same from each.
   2. Set up amplifier for balancing (p. 195)
   3. Amplifier would not balance out properly.
   4. Obtained tube tester from ET's and found defective tube -- noted above.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced defective tube -- rebalance amplifier.
   2. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 20 minutes
10. Cause:
    Defective rectifier tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (10)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.24

1. Major Unit:
   3"/50 RFTM MK 27 MOD O (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Elevation Amplifier Unit (p. 141, fig. 108)
4. Part or Piece:
   Vacuum Tube 6H6/GT Rectifier Tube V-211 V-212
5. Description of Casualty:
   Gun runs away, in elevation, when dead man key is closed.
6. Conditions Under which Casualty Occurred:
   Morning transmission checks and normal operation.
7. Casualty Analysis:
   1. Checked mount from all control stations and found it to act the same from each.
   2. Set up amplifier for balancing. (p. 195)
   3. Found amplifier to be greatly out of balance.
   4. Obtained tube tester from ET's and found defective tube -- noted above.
   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced defective tube -- rebalanced amplifier.
   2. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 20 minutes
10. Cause:
    Defective rectifier tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (10)

CASUALTY REPORT FORM

From:
To:

SHIP:
104.25

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Elevation Amplifier Unit (p. 141, fig. 108)
4. Part or Piece:
   Vacuum Tube 6H6/GT Speed and Position Limit V-208
5. Description of Casualty:
   Gun elevates and depresses at excessive speeds in local -- normal in automatic.
6. Conditions Under which Casualty Occurred:
   Morning transmission checks and normal operation.
7. Casualty Analysis:
   1. Checked mount in all manners of control and found that only local surface and local AA were defective in control. Automatic operated properly.
   2. Set up amplifier for balancing. (p. 195)
   3. Amplifier may be balanced with limit tubes removed.
   4. Replaced limit tubes. Defective tubes caused meters to change in their readings. (Defective tube.)
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced defective tube -- rebalance amplifier.
   2. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 20 minutes
10. Cause:
    Defective limit tube
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (10)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.26

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Elevation Amplifier Unit (p. 141, fig. 108)
4. Part or Piece:
   807 Vacuum Tube (V-213 V-214)
5. Description of Casualty:
   Gun will operate normally in all respects and then elevates or depresses without control unless dead man key (safety switch) is released. After mount sets for a short time, it will again operate properly, and then elevate or depress without control.
6. Conditions Under which Casualty Occurred:
   When at General Quarters.
7. Casualty Analysis:
   1. Mount acts the same in Local surface, local AA, and automatic. Therefore the trouble will be in the elevation amplifier.
   2. Hook up balance meters. (p. 195)
   3. Amplifier will balance out properly.
   4. When the 807 breaks down the reading on the meter that is connected to that side of the circuit will drop to "O" output and the other meter will raise to approximately "60" milliamperes.

      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced faulty 807.
   2. Balance out circuit.
   3. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 30 minutes
10. Cause:
    Breakdown of 807 vacuum tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (10)

CASUALTY REPORT FORM

From:
To:

SHIP:
104.27

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Elevation Amplifier Unit (p. 141, fig. 108)
4. Part or Piece:
   Vacuum Tube 6SL7 V-210 (Synchronizing Tube)
5. Description of Casualty:
   Gun followed automatic gun orders with large errors.
6. Conditions Under which Casualty Occurred:
   Daily transmission check.
7. Casualty Analysis:
   1. Checked mount and found it to work satisfactory in local surface and local AA.
   2. Set up amplifier for balancing (p. 195)
   3. Drew tube tester from ET's and tested tubes. Found V-210 to be defective. Controls relay K-102. (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced defective tube -- rebalanced amplifier.
   2. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 30 minutes
10. Cause:
    Defective tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (10)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.28

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Elevation Amplifier Unit (p. 141, fig. 108)
4. Part or Piece:
   Current Limit Tube 6H6/GT V-207 (p. 141, fig. 108)
5. Description of Casualty:
   Gun will travel at excessive speeds.
6. Conditions Under which Casualty Occurred:
   During normal operation, morning transmission checks.
7. Casualty Analysis:
   1. Checked gun in all manner of control and found that it acted the same from each.
   2. Set up amplifier for balancing. (p. 195)
      Amplifier may be balanced with limit tubes removed. When amplifier is properly balanced replace tubes in limit circuit one at a time.
   3. The tube that causes a change in the meter readings will be defective. V-207 found defective.
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced defective tube -- rebalanced amplifier.
   2. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 20 minutes
   (b) Actual Repair Work Time: 20 minutes
10. Cause:
    Defective limit tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (10)

CASUALTY REPORT FORM

From:
To:

SHIP:

103.28

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Elevation Amplifier Unit (p. 141, fig. 108)
4. Part or Piece:
   Tube V-1 (5R4GY)
5. Description of Casualty:
   1. Mount drives properly in train but gun does not respond in elevation -- in both controls.
6. Conditions Under which Casualty Occurred:
   Daily transmission check.
7. Casualty Analysis:
   1. Checked gun for operation. Found there was no response to elevation signals.
   2. Checked tubes in elevation amplifier -- tubes O.K. (OZ1 tube tester)
   3. Checked tubes in power supply and motor field control unit -- found faulty tube V-1 in power supply unit -- casualty located.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced faulty tube.
   2. Balanced out elevation amplifier.
   3. Checked out mount operation -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Life of tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (10)

CASUALTY REPORT FORM

From:
To:

SHIP:
101.22

1. Major Unit:
   3"/50 RFTM MK 27 MOD O (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Elevation Amplifier Unit (p. 141, fig. 108)
4. Part or Piece:
   Tubes V-209, V-201, V-205, V-210, V-204 (p. 141, fig. 108)
5. Description of Casualty:
   Gun would not synchronize in elevation -- automatic control.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Since gun would not synchronize it was believed to be the amplifier.
   2. Checked all tubes with a tube tester and found above tubes to be weak.
   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced weak tubes -- and balanced amplifier.
   2. Operation checked -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 1/2 hours
   (b) Actual Repair Work Time: 1 1/2 hours
10. Cause:
    Life of tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (10)

CASUALTY REPORT FORM

From:
To:

SHIP:

101.23

1. Major Unit:
   3"/50 RFTM MK 27 MOD O (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Elevation-Amplifier Unit (p. 141, fig. 108)
4. Part or Piece:
   Tube V-202, V-201 (6SL7)
5. Description of Casualty:
   Gun ran away in elevation -- local control.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Checked one man control station -- to see if it was an error in potentiometer. (Same response from local AA and surface) -- satisfactory.
   2. Visual check of amplifier -- were tubes energized? -- satisfactory.
   3. Checked tubes -- with tube tester -- V-201, V-202 defective.

      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Removed and replaced tubes.
   2. Balanced amplifier.
   3. Checked operation -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 30 minutes
10. Cause:
    Life of tube.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
101.20

1. Major Unit:
   3"/50 RFTM MK 27 MOD O (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Elevation-Amplifier Unit (p. 213, fig. 141)
4. Part or Piece:
   Tubes (V-205, V-213, V-214) (p. 141, fig. 108)
5. Description of Casualty:
   Gun oscillating in elevation (in both local and automatic).
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Visual check of casualty -- above noted.
   2. Checked and changed V-213, and V-214 (p. 141, fig. 108) (These tubes common to both local and automatic operation). Checked with tube tester. Tubes faulty.
   3. Checked gun operation -- this stopped oscillation but gun would not synchronize to automatic signal.
   4. Checked and changed V-205 -- gun now operates satisfactorily.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced tubes V-205, V-213, V-214 (V-213 (807) tubes
   2. Rebalanced amplifier. (V-214 (807) tubes
   3. Operation satisfactory. (V-205 (6SL7) tubes
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 30 minutes
10. Cause:
    Normal life of tubes.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (10)

CASUALTY REPORT FORM

From:
To:

SHIP:

103.29

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Elevation Amplifier Unit (p. 141, fig. 108)
4. Part or Piece:
   Tube V-213, V-214
5. Description of Casualty:
   Gun would not synchronize -- in automatic control.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Checked reading being transmitted from control station to mount. Found elevation reading off 12 minutes.
   2. Checked elevation amplifier for tubes -- with OZ1 tester -- faulty tubes noted. (See above).
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replace tubes.
   2. Balance amplifier.
   3. Checked operation in automatic -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Life of tube -- shortened because strain put on amplifier by personnel carelessness -- failure to remove elevation locking pins.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (10)

CASUALTY REPORT FORM

From:
To:

SHIP:

101.24

1. Major Unit:
   3"/50 RFTM MK 27 MOD O (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Elevation-Amplifier Unit (p. 141, fig. 108)
4. Part or Piece:
   Resistor R-241
5. Description of Casualty:
   Gun ran away in elevation -- in both controls.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Switched amplifiers -- to localize trouble -- it was elevation amplifier.
   2. Ran point to point voltage checks -- on amplifier (p. 141, fig. 108) (p. 233-234) - Preliminary settings of adjustable potentiometers.
   3. Found voltage to pins 2 and 5 of tube V-205 were not equal.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Adjusted variable resistor (p. 241) -- cause remedied.
9. Time Involved:
   (a) Equipment inoperative: 1 1/2 months
   (b) Actual Repair Work Time: 10-12 hours
10. Cause:

11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J--942
CRF-1

POWER DRIVES: (10)

CASUALTY REPORT FORM

From:
To:

SHIP:

101.21

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig.81)
3. Sub-Assembly:
   Elevation Amplifier Unit (p. 141, fig.108)
4. Part or Piece:
   Synchronizing Relay K-202 (p. 213)
5. Description of Casualty:
   Gun losing fine and coarse automatic signal. Gun would drive to approximately 2 1/2 degrees from correspondence points -- but would not go into full automatic under fine control.
6. Conditions Under which Casualty Occurred:
   Daily trarsmission checks -- automatic from SKY 4 (director)
7. Casualty Analysis:
   1. Visual check by FC2 of casualty.
   2. Checked tubes (p. 149) V-210, V-209, and V-204 in elevation amplifier. Checked satisfactory. These tubes comprise synchronizing circuit.
   3. Checked synchronizing relay K-202 -- faulty -- coil burned -- therefore relay would not pick up and give fine control. Reason for no coarse control -- (within 2 1/2 degrees of correspondence point) was that coarse control relay K-201 drops out at approximately 2 1/2°.
   (FC2 supervised by FT1)
8. Remedial Action Taken:
   1. Removed relay K-202 and replaced Cat. #SC 6016, and Ordance Drawing #D-688999-2. Made synchronizing relay adjustment (p. 207).
   2. Rebalance amplifier. (p. 201)
   3. Checked mount operation -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1st time - 2 hours; 45 minutes
   other times.
   (b) Actual Repair Work Time: 45 minutes
10. Cause:
   Personnel -- when cleaning -- shorted relay -- by brushing against or bending contacts. (Expressed opinion).
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (10)

CASUALTY REPORT FORM

From:
To:

SHIP:
10.1

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Elevation Amplifier Unit (p. 141, fig. 108)
4. Part or Piece:
   Condenser C-218
5. Description of Casualty:
   Ran into automatic limit stops--depression as soon as "dead man's key" (safety switch) was closed. (Local control).
6. Conditions Under which Casualty Occurred:
   Routine exercising of equipment during daily transmission checks.
7. Casualty Analysis:
   1. Placed good amplifier in. Result--mount operated well.
   2. Traced signal through old amplifier--with voltmeter. (OP 1753) (p. 142, fig. 109) Results -- located condenser C-218 which was breaking down under a load only. Showed up well when checked under no load on an ohmmeter.
      (FC1 did task himself--chief was at school).
8. Remedial Action Taken:
   1. Replaced condenser--checked operation--satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 10-12 days
   (b) Actual Repair Work Time: 100 hours
10. Cause:
    Defective condenser -- insulation breaking down under load.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (15)

CASUALTY REPORT FORM

From:
To:

SHIP:
102.18

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1753)
2. Main Assembly:
   Control Panel MK 62 MOD O (p. 108, fig. 82)
3. Sub-Assembly:

4. Part or Piece:
   Circuit fuses (blown -- due to short circuit)
5. Description of Casualty:
   No start circuit on motor-generator amplidyne drive motors -- in any control.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Push start button -- no start circuit.
   2. Check control relays -- in MK 65 control panel -- visually to see if they pick up after time delay (8 seconds) -- found no pick up.
   3. Checked circuit fuses in MK 65 control panel with volt-ammeter (Western 785) -- found blown fuse.
   4. Replaced fuse -- to MK 62 control panel.
   5. Tested operation -- found fuse blown again.
   6. Removed cover from MK 62 control panel -- visual check of start pushbutton -- and stop pushbutton -- and reset pushbutton to see leads are not grounded or shorted to each other.
   7. Visual check of left gun -- firing cut-out light. Found (due to moisture) that left gun - cut-out light shorted out.
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced left gun cut-out light.
   2. Replaced fuse to MK 62 control panel.
   3. Checked operation -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 1 1/2 hours
10. Cause:
    Moisture in left gun cut-out light.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (15)

CASUALTY REPORT FORM

From:
To:

SHIP:

103.41

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Control Panel MK 62 MOD O (p. 108, fig. 82)
3. Sub-Assembly:
   Train Correspondence Indicator
4. Part or Piece:

5. Description of Casualty:
   Mount would not match up in local control with transmitted gun order.
6. Conditions Under which Casualty Occurred:
   Routine exercising of mount during daily transmission checks.
7. Casualty Analysis:
   1. Checked mount in automatic control - satisfactory. (Mount synchronized properly.)
   2. While mount is synchronized, correspondence indicator indicated a signal. (Correspondence indicator out of adjustment).
   3. Checked error signal for train with voltmeter -- no signal.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Attempted to adjust meter -- with screwdriver. Meter adjusted properly -- went to "O" in left and right train of mount. Meter now matched up with transmitted gun order.
   2. Mount operated -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Aging or life of meter -- vibration.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (14)

CASUALTY REPORT FORM

From:
To:

SHIP:
103.40

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Control Panel MK 65 MOD O (p. 110, fig. 84)
3. Sub-Assembly:

4. Part or Piece:
   Exterior Safety Circuit, (p. 286, fig. 171)
5. Description of Casualty:
   1. Motor-generator amplidynes fail to start -- train and elevation -- in any control.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Checked mount for operation -- found above casualty.
   2. Gave visual checks on all switches -- noticed broken rubber boot on hand crank safety switch MK 6 MOD O.
   3. Gave switch electrical checks, -found it to be faulty due to water entering it through broken rubber boot causing the switch to short out.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced switch.
   2. Tested mount -- operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Life of rubber boot.
11. Remarks and Recommendations:
    Could happen on any of safety switches located in exterior safety circuit.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (14)

CASUALTY REPORT FORM

From:
To:

SHIP:

101.35

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Control Panel MK 65 MOD O (p. 110, fig. 84)
3. Sub-Assembly:
   Relay CR-5 (p. 166, fig. 124)
4. Part or Piece:
   Spring
5. Description of Casualty:
   When dead man's switch (safety switch) was released, the brake to stop the mount operation did not take hold. (Both train and elevation) -- local control.
6. Conditions Under which Casualty Occurred:
   Routine transmission checks.
7. Casualty Analysis:
   1. Checked relay CR-5 because when dead man's switch (safety switch) is released, the brake did not operate -- evidence that spring was faulty.
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replace spring.
   2. Check out dead man's switch (safety switch) -- operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 45 minutes
   (b) Actual Repair Work Time: 45 minutes
10. Cause:
    Faulty spring.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (14)

CASUALTY REPORT FORM

From:
To:

SHIP:

101.34

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Control Panel MK 65 MOD O (p. 110, fig. 84)
3. Sub-Assembly:
   Line contactor 2M (p. 166, fig. 124)
4. Part or Piece:
   Contacts of 2M
5. Description of Casualty:
   Starting circuit to mount -- under any control. Train motor-generator amplidyne would start -- but elevation motor generator amplidyne would not start.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Checked 440 V supply to control panel---satisfactory.
   2. Checked to see if all relays in control panel were operating---satisfactory.
   3. Checked all relay contacts---found one set of contacts on 2M were burned. This set of contacts passes 440 AC to elevation motor-generator amplidyne.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced contacts on line contactor - 2M.
   2. Mount operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1/2 hour
   (b) Actual Repair Work Time: 1/2 hour
10. Cause:
    Arcing causing wear of contacts.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J--942
CRF-1

POWER DRIVES: (14)

CASUALTY REPORT FORM

From:
To:

SHIP:

103.36

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Control Panel MK 65 MOD O (p. 110, fig. 84)
3. Sub-Assembly:

4. Part or Piece:
   Fuses to T-1 and/or T-2 (p. 286, fig. 171)
5. Description of Casualty:
   Motor Generator Amplidynes fail to run -- in any control.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Checked mount for operation -- noted above.
   2. Visual check control panel MK 65 MOD O -- found fuse burned. This visual check was made to note if any relays were operating -- none were. This indicated relay coils not energized. Therefore visual check of fuses.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced fuse.
   2. Checked mount for operation -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 15 minutes
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    Overload
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (14)

CASUALTY REPORT FORM

From:
To:

SHIP:

103.35

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Control Panel MK 65 MOD O (p. 110, fig. 84)
3. Sub-Assembly:

4. Part or Piece:
   Fuse to T-1 (p. 286, fig. 171)
5. Description of Casualty:
   Mount fails to respond to one-man control -- train and elevation. Mount failed to respond to any signal.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Checked mount for operation -- noted above.
   2. Visual check of control panel MK 65 MOD O -- found fuse burned. This visual check was made to note if any relays were operating -- none were operating. This indicated relay coils not energized therefore visual check of fuse.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced fuse.
   2. Checked mount for operation -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 15 minutes
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    Overload.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (14)

CASUALTY REPORT FORM

From:
To:

SHIP:
103.37

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Control Panel MK 65 MOD O (p. 110, fig. 84)
3. Sub-Assembly:
   Train Timing Relay (TR-3)
4. Part or Piece:
   Relay Coil (p. 286, fig. 171) (p. 166, fig. 124)
5. Description of Casualty:
   No response to transmitted signal in local or automatic. In automatic signal from director -- in local signal from one-man control units.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Checked mount operation -- found no response to train or elevation signal.
   2. Visual check of control panel MK 65 MOD O. Noted charred space around TR-3.
   3. Visually checked TR-3. Found coil to be burned.
   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced coil with spare part.
   2. Reassembled relay.
   3. Operated mount -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1/2 hour
10. Cause:
    Insulation breakdown.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (14)

CASUALTY REPORT FORM

From:
To:

SHIP:

101.28

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O Control Panel MK 65 MOD O
3. Sub-Assembly:
   Motor Field Control Chassis (p. 214, fig. 142)
4. Part or Piece:
   Timing Relay TR 3 (p. 171, fig. 126) (p. 166, fig. 124)
5. Description of Casualty:
   Mount would not train or gun elevate in any control.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Visual check of casualty.
   2. Since casualty common to both, checked power supply unit -- satisfactory.
   3. Checked motor field control chassis (common to both)-- found no plate voltage to tubes V-306, V-307, V-308, V-309 (use AC voltmeter).
   4. Unit supplying plate voltage to these tubes is contacts of CR4 -- noted contacts were not picking up -- not being energized.
   5. Checked coil of CR4 -- found satisfactory.
   6. Checked TR3 -- which energizes CR4. Found coil of TR3 shorted.

   (FC2 supervised by FC1)
8. Remedial Action Taken:
   1. Replaced coil of timing relay TR3 (p. 110, fig. 84)
   2. Checked mount operation -- in all controls. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 2 hours
10. Cause:
    Due to breakdown of insulation.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (14)

CASUALTY REPORT FORM

From:
To:

SHIP:

103.38

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Control Panel MK 65 MOD O, (p. 110, fig. 84)
3. Sub-Assembly:
   Elevation Timing Relay TR-2 (p. 286, fig. 171)
4. Part or Piece:
   Bellows (p. 166, fig. 124)
5. Description of Casualty:
   Both motor-generator (amplidynes) started when start button was pressed -- but "kicked out" immediately -- in local control.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Checked mount for operation -- found that amplidyne generators start, but overload relays kick out.
   2. Gave MK 65 control panel visual check. Found that timing relay TR-2 was operating too fast, causing elevation amplidyne to start -- before train amplidyne was up to speed. This caused a large draw of current causing the overload relays to kick out.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Adjusted timing relay TR-2 -- 15 seconds (p. 205)
   2. Check operation of control panel MK 65 MOD O -- found to be satisfactory.
   3. Mount operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1/2 hour
   (b) Actual Repair Work Time: 1/2 hour
10. Cause:
    Timing relay TR-2 out of adjustment -- due to loose screw caused by ships vibration.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (14)

CASUALTY REPORT FORM

From:
To:

SHIP:

10.6

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1753)
2. Main Assembly:
   Control Panel MK 65 MOD O (p. 110, fig. 84)
3. Sub-Assembly:

4. Part or Piece:
   Timing Relay (TR2) (p. 166, fig. 124) (p. 286, fig. 171)
5. Description of Casualty:
   1. Overload relays kicking out before train motor-generator amplidyne was up to speed -- in local control.
6. Conditions Under which Casualty Occurred:
   1. Routine exercising of equipment.
7. Casualty Analysis:
   1. Timed timing relays with stop watch. Found that TR2 was cutting in before train motor-generator amplidyne was up to speed, putting elevation motor amplidyne on line which overloaded system causing overload relays to kick out.
      (FC1 supervised by FT1)
8. Remedial Action Taken:
   1. Adjusted relay to proper time. (p. 205)
   2. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Vibration of mount caused relay to go out of adjustment.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (14)

CASUALTY REPORT FORM

From:
To:

SHIP:

101.33

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Control Panel MK 65 MOD O (p. 110, fig. 84)
3. Sub-Assembly:
   (See Schematic inside cover of panel) (p. 286, fig. 171)
4. Part or Piece:
   Timing Relay TR2 (p. 166, fig. 124)
5. Description of Casualty:
   Elevation motor picks up too soon after train motor. Should pick up 8 seconds after. (Testing in local).
6. Conditions Under which Casualty Occurred:
   Routine check of timing relays.
7. Casualty Analysis:
   1. Visual inspection of control panel -- noted time relay TR-2 was not giving an 8 second delay. (FT3 supervised by FT2)
8. Remedial Action Taken:
   1. Follow procedure OP 1753, (p. 205) -- timing relay adjustment -- operation satisfactory.
   2. Replaced relay later -- because of worn condition of bellows.
9. Time Involved:
   (a) Equipment inoperative: 1/2 hour
   (b) Actual Repair Work Time: 1/2 hour
10. Cause:
    Material defective or worn out.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (14)

CASUALTY REPORT FORM

From:
To:

SHIP:
104.35

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Control Panel MK 65 MOD O (p. 110, fig. 84)
3. Sub-Assembly:
   (Schematic inside cover of panel) (p. 286, fig. 171)
4. Part or Piece:
   Elevating Contactor Timing Relay TR2 (p. 166, fig. 124)
5. Description of Casualty:
   Elevation amplidyne failed to start -- in local.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Visual inspection of control panel MK 65 showed that lower part of elevating contactor timing relay TR2 had dropped off. This part is the bellows of the relay and prevented contacts of relay from operating properly. (See p. 111, para. 3)
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced missing bellows to relay TR2. Adjusted same. Operation normal. (p. 205)
9. Time Involved:
   (a) Equipment inoperative: 1/2 hour
   (b) Actual Repair Work Time: 1/2 hour
10. Cause:
    Bellows of elevating contactor timing relay TR2 dropped off due to excessive vibration.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (14)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.34

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Control Panel MK 65 MOD O (p. 110, fig. 84)
3. Sub-Assembly:
   (Schematic inside cover of panel) (p. 286, fig. 171)
4. Part or Piece:
   Elevating Contactor Timing Relay TR2 (p. 166, fig. 124)
5. Description of Casualty:
   Train and elevation amplidynes started at same time -- in local.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   Visual inspection of control panel MK 65 MOD O (p. 110, fig. 84) showed that the bellows of relay TR2 were collapsing too fast. This prevented the necessary time delay between the starting points of the two amplidynes. (See p. 111, para. 3)
   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Adjusted the air holes of the bellows of TR2 until proper time between starting points of the two amplidynes was obtained. Operation satisfactory. (This was done according to timing relay adjustment procedure on p. 205, OP 1753).
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 30 minutes
10. Cause:
    Misadjusted bellows of timing relay TR2.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (14)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.33

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Control Panel MK 65 MOD O (p. 110, fig. 84)
3. Sub-Assembly:
   (Schematic inside cover of panel) (p. 286, fig. 171)
4. Part or Piece:
   Elevation Synchro Power Control Relay CR1 (p. 166, fig. 24)
5. Description of Casualty:
   Elevation motor cuts off and elevation gear brake set-- in automatic
6. Conditions Under which Casualty Occurred:
   During AA firing practice.
7. Casualty Analysis:
   1. Visual inspection -- above noted.
   2. Shifted mount to local control -- elevation operative.
   3. Checked elevation control relays -- under automatic -- and found a broken lead to control relay CR1.
      (Control Panel MK 65 MOD O)
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Repaired broken lead and checked operation of mount -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 1/2 hours
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Broken lead to control relay CR1 caused by vibration of firing mount.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (14)

CASUALTY REPORT FORM

From:
To:

SHIP:
104.32

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Control Panel MK 65 MOD O (p. 110, fig. 84)
3. Sub-Assembly:
   (Schematic inside cover of panel) (p. 286, fig. 171)
4. Part or Piece:
   Control Relay CR1 (p. 166, fig. 124)
5. Description of Casualty:
   Mount would not respond to automatic gun orders.
6. Conditions Under which Casualty Occurred:
   Transmission checks -- General Quarters.
7. Casualty Analysis:
   1. Checked mount in all types of control and found that automatic was the only control defective.
   2. Checked to see if coil in relay was receiving 115 V. when signal from director was impressed on relay. It was not.
   3. Found broken terminal lead on coil lead.
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Installed new terminal lug on coil lead.
   2. Tested and found operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 30 minutes
10. Cause:
    Broken lead on coil lead.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (14)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.31

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Control Panel MK 65 MOD O (p. 110, fig. 84)
3. Sub-Assembly:
   (p. 286, fig. 171) (Schematic inside cover of panel)
4. Part or Piece:
   Contracts on all relays. (p. 166, fig. 124)
5. Description of Casualty:
   Contacts of relays become pitted from normal wear and cause arcing. At times amplidynes fail to start because of poor connection of contacts.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. After depressing start button on control panel MK 62, MOD O (p. 108, fig. 82) and amplidynes failed to pick up a visual inspection of control panel MK 65 MOD O (p. 110, fig. 84), and its relays, while button was being depressed, showed that the relay contactors were not making proper contact.
   2. An inspection of said contacts showed they were pitted and charred.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Cleaned or replaced pitted and charred contacts.
   2. Checked operation by depressing start button on control panel MK 62 MOD O to see if amplidynes started properly.
   3. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 15 minutes
   (b) Actual Repair Work Time: 10 minutes
10. Cause:
    Pitted and charred contacts of relays failed to make proper contact.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (11) 100

CASUALTY REPORT FORM

From:
To:

SHIP:

104.30

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Direct Current Power Supply Unit (p. 216, fig. 144)
   (p. 132, fig. 103)
4. Part or Piece:
   V-4 (5R4-GY) Tube
5. Description of Casualty:
   When one man control safety switch was closed, mount began to move into the stops in one direction only.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Checked mount operation in local modes -- unsatisfactory. Mount moved towards one stop when safety switch was closed.
   2. Checked balance of elevation amplifier -- good.
   3. Checked outputs of power supply and found low output on terminals PS 8 and PS 9. This showed tube V4 was bad.
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced V-4 (5R4-GY) rectifier tube.
   2. Checked operation of mount -- normal.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 1 1/2 hours
10. Cause:
    Defective 5R4-GY tube in power supply.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (11)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.29

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Direct Current Power Supply Unit (p. 132, fig. 103)
   (p. 216, fig. 144)
4. Part or Piece:
   V-3 (5R4-GY) Tube
5. Description of Casualty:
   When one man control safety switch was closed, mount began to move into the stops in one direction only.
6. Conditions Under which Casualty Occurred:
   Daily transmission check.
7. Casualty Analysis:
   1. Checked mount operation in local modes -- unsatisfactory. Mount moved toward stops in one direction.
   2. Checked balance of train amplifier -- good.
   3. Checked outputs of power supply and found low output on terminals PS 10 and PS 11.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced V-3 (5R4-GY) Rectifier Tube.
   2. Checked operation of mount -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 1 1/2 hours
10. Cause:
    Defective 5R4-GY tube in power supply.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (11)

CASUALTY REPORT FORM

From:
To:

SHIP:

101. 30

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Amplifier MK 40 MOD O (p. 107, fig. 81)
3. Sub-Assembly:
   Direct Current Power Supply Unit (p. 132, fig. 103)
   (p. 216, fig. 144)
4. Part or Piece:
   Power Tubes V-1, V-2, V-3, V-4 (5R4GY)
5. Description of Casualty:
   Mount would not train or gun elevate in any control.
   First observed in local control.
6. Conditions Under which Casualty Occurred:
   Daily transmission check.
7. Casualty Analysis:
   1. Visual check of casualty --- noted above.
   2. Casualty common to both train and elevation and therefore indicated power supply or motor field control chassis.
   3. Checked power supply -- the 4 tubes would not light up -- visual check. (Filaments not lit up.)
      (FT2 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced tubes -- visual check -- filaments now lit.
   2. Operate mount in train and elevation - - from all stations -- checked satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 15 minutes
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    Normal life of tubes -- coincidence they burned out at same time.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J--942
CRF-1

POWER DRIVES: (15)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.36

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Control Panel MK 62 MOD O (p. 108, fig. 82)
3. Sub-Assembly:
   Start-Stop Reset Buttons
4. Part or Piece:
   Rubber Covering
5. Description of Casualty:
   Rubber covers on start-stop reset buttons deteriorate.
6. Conditions Under which Casualty Occurred:
   Normal use and exposure to weather.
7. Casualty Analysis:
   Covers deteriorate due to weather. (FT3)
8. Remedial Action Taken:
   Replace covers.
9. Time Involved:
   (a) Equipment inoperative: 15 minutes
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    Covers deteriorating due to weather.
11. Remarks and Recommendations:
    These gaskets have to be replaced every 6 months, at least.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (16)

CASUALTY REPORT FORM

From:
To:

SHIP:

103.33

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Local - One Man Control Unit MK 2 MOD O (p. 111, fig. 85)
3. Sub-Assembly:
   Left Handle
4. Part or Piece:
   Safety Switch Lever - (Plunger Rod)
5. Description of Casualty:
   When switch released, circuit not deenergized. Mount can still be driven by one man control unit.
6. Conditions Under which Casualty Occurred:
   Daily transmission check.
7. Casualty Analysis:
   1. Check operation -- noted above.
   2. Operating from local surface station -- normal mount operation.
   3. Attempted to drive mount without energizing safety switch -- result - mount drove, and should not.
   4. Removed cover on left handle -- found switch OK, but a plunger actuating switch was held in "in" position.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Rubber bushing -- to hold lubrication -- was frayed.
   2. Removed and replaced.
   3. Checked operation of switch -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Lubrication saturating and expanding rubber bushing.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (16-17)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.39

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   One-Man Control Unit MK 2 MOD O (p. 111, fig. 85)
3. Sub-Assembly:
   Safety Switch Lever
4. Part or Piece:
   (Micro-Switch) Safety Switch
5. Description of Casualty:
   Train and elevation brake solenoids failed to pick up. Mount would not train or elevate in local; overload relays "kicked out" in local surface.
6. Conditions Under which Casualty Occurred:
   Daily transmission check.
7. Casualty Analysis:
   1. Checked operation of mount in local surface control -- inoperative.
   2. Checked operation in local AA -- satisfactory.
   3. Checked operation of magnetic brake by closing safety switch and listening for "click" in local surface control. No click apparent. From local AA control -- normal.
   4. Disassembled safety switch handle and tested safety switch. This was found to be defective. Switch would not open and close properly.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced defective (micro-switch) safety switch.
   2. Checked operation of brake solenoid -- normal.
   3. Checked operation of mount -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Defective micro-switch (safety switch)
11. Remarks and Recommendations:
    The same micro-switch was found defective when a similar casualty occurred to the elevation brake. This casualty occurred 7 times. Same switch controls elevation and train brake solenoids.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (16-17)

CASUALTY REPORT FORM

From:
To:

SHIP:
104.40

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   One Man Control Unit MK 2 MOD 2 (p. 111, fig. 85)
3. Sub-Assembly:
   Safety Switch Lever
4. Part or Piece:
   (Micro-Switch) Safety Switch
5. Description of Casualty:
   Mount erratic in elevation and train--Local control.
6. Conditions Under which Casualty Occurred:
   Daily Transmission Check
7. Casualty Analysis:
   1. Checked mount in elevation by opening and closing safety switch and at same time offsetting one man control unit. Mount responded intermittently to local signal.
   2. Disassembled safety switch handle and tested elevation control safety switch (micro-switch) for proper contact and release. Safety switch (Micro--switch) found to be defective.

   Note: This casualty could be caused by safety switch from either local surface or local AA.
   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced defective (micro-switch) safety switch with spare.
   2. Checked operation -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Defective (micro-switch) safety switch due to moisture.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

POWER DRIVES: (16-17)

CASUALTY REPORT FORM

From:
To:

SHIP:

104.41

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   One-Man Control Unit MK 2 MOD O (p. 111, fig. 85)
3. Sub-Assembly:
   Safety Switch Lever
4. Part or Piece:
   (Micro-Switch) Safety Switch
5. Description of Casualty:
   Mount erratic in train and elevation -- local.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Checked mount in train and elevation. Closed safety switch, offset one-man control unit. Mount trained normal. Opened safety switch.
   2. Closed safety switch again, offset one-man control unit. No operation.
   3. Closed safety switch and offset handwheels several times -- mount responded satisfactorily intermittently.
   4. Disassembled safety switch handle and tested safety switch (micro-switch) for proper contact and release -- with ohmmeter.
   5. Safety switch (micro-switch) found to be defective.

   Note: This casualty could be caused by safety switch from either local surface or local AA.
   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced defective safety switch (micro-switch) with spare.
   2. Checked operation -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Defective safety switch (micro-switch) -- due to moisture.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (16)

CASUALTY REPORT FORM

From:
To:

SHIP:
102.17

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1753)
2. Main Assembly:
   One-Man Control Station -- Local AA Side (p. 112, fig. 86)
3. Sub-Assembly:

4. Part or Piece:
   Dual Potentiometers R-1A, R-1B (p. 153, fig. 114)
5. Description of Casualty:
   Sluggish operation of train in one direction -- in local AA control.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Visual check for sluggish operation noted.
   2. Checked continuity across R-1A and R-1B and found infinitive reading (Western 785-volt and ohmmeter.)

   Note: Local speed order signal originates at R-1A and R-1B in unit.
   (FT 3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced R-1A and R-1B and adjusted R-1A and R-1B for proper operation -- for zero position.
   2. Operated -- satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 3 hours
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Open resistors -- thought to result from mount vibration.
11. Remarks and Recommendations:
    Odd casualty.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

POWER DRIVES: (16)

CASUALTY REPORT FORM

From:
To:

SHIP:

103.34

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   One-Man Control Unit MK 2 MOD O (p. 111, fig. 85)
3. Sub-Assembly:

4. Part or Piece:
   Dual potentiometers R-1A and R-1B (p. 153, fig. 114)
5. Description of Casualty:
   Mount drifts slowly to the right in local surface control, when safety switch is depressed.
6. Conditions Under which Casualty Occurred:
   Routine exercising of mount during daily transmission checks.
7. Casualty Analysis:
   1. Checked mount operation in local surface control. Noted that mount drifted slowly to the right when one-man control was at zero detent.
   2. By deflecting one-man control unit, found that there was a zero position of the potentiometer.
   3. Gun operated satisfactory in elevation.
   4. Mount operated satisfactory in both elevation and train from local AA one-man control unit.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Adjusted the dual potentiometer R1 with screwdriver until mount stopped drifting.
   2. Operated mount in local surface control. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1/2 hour
   (b) Actual Repair Work Time: 1/2 hour
10. Cause:
    Ship vibration.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
104.37

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   One-Man Control Unit (p. 112, fig. 86)
3. Sub-Assembly:

4. Part or Piece:
   Dual Potentiometers R-1A and R-1B (p. 153, fig. 114)
5. Description of Casualty:
   1. Mount trained erratic in one direction.
   2. When one-man control unit was held in zero train position and dead man key was closed, mount would run away -- in one direction.
6. Conditions Under which Casualty Occurred:
   Transmission checks.
7. Casualty Analysis:
   1. Checked mount from all control stations. Satisfactory in local AA and automatic.
   2. Removed cover from local surface one-man control unit. Took voltage reading on dual potentiometer.
   3. Dual potentiometer was sending a signal when unit was in the neutral position.
   4. Removed dual potentiometer and found that fiber gear on potentiometer shaft was damaged allowing it to slip on shaft.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Installed new fiber gear on dual potentiometer.
   2. Installed dual potentiometer in one-man control unit.
   3. Adjusted dual potentiometer so that a zero signal was sent when one-man control unit was in neutral position.
   4. Tested mount and found operation to be satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1 1/2 hours
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Damaged fiber gear on dual potentiometer shaft -- probably misaligned.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
104.38

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   One-Man Control Unit (p. 112, fig. 86)
3. Sub-Assembly:

4. Part or Piece:
   Dual Potentiometers R-4A and R-4B (p. 157, fig. 116)
5. Description of Casualty:
   When one-man control station was held on the neutral position, the gun began to creep slowly into the elevation limits. Upon deflecting the control station in the opposite direction (depression), the creeping stopped, but the gun could not be depressed.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. See "Description of Casualty".
   2. Removed cover from one-man control unit. Took resistance readings with ohmmeter from finger of dual potentiometer to each end of potentiometer while one-man control station was in its center position to determine if the finger was positioned at mid-point of potentiometers.
   3. Finger found to be off-center.
   (FT3 supervised by FT2)
8. Remedial Action Taken:
   1. Aligned the fingers of the potentiometers on the mid-point of the windings using a voltmeter.
   2. Operation satisfactory after adjustment.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1/2 hour
10. Cause:
    Finger off-center of dual potentiometer in one-man control unit -- due to mount operation.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

WEAPON COMPONENT

SIGHTS

MISCELLANEOUS CASUALTIES

CASUALTY REPORT FORM

From:
To:

SHIP:

102.16

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1753)
2. Main Assembly:
   MK 65 Control Panel (p. 110, fig. 84)
3. Sub-Assembly:

4. Part or Piece:
   Auxillary Relay "R" (See p. 111)
5. Description of Casualty:
   Motor-generator amplidyne fails to run when you let up on the start button.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Pushed start button -- train motor amplidyne generator started -- released start button train motor amplidyne generator cut-out.
   2. Pushed start button -- train motor amplidyne generator started -- held start button in depressed position eight (8) seconds -- elevation motor cut in -- power drive operated normal -- this indicated auxiliary relay "R" did not make contact.
   3. Remove cover of MK 65 control panel and examined contacts of auxiliary relay "R" -- found contacts worn due to arcing.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced contacts of auxiliary relay "R".
   2. Pushed start button -- auxiliary relay "R" satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 30 minutes
10. Cause:
    Contacts burned due to arcing.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:

101. 36

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Both Train and Elevation Brakes
3. Sub-Assembly:

4. Part or Piece:
   Micro Switch
5. Description of Casualty:
   Run circuit cut-out intermittently. Both train and elevation -- both controls.
6. Conditions Under which Casualty Occurred:
   Daily transmission check.
7. Casualty Analysis:
   1. Check to see if overload relays had been actuated. (In control MK 65 MOD O) OL 1, 2, 3, 4 (p. 110) OP 1753 not kicking out -- therefore no overload.
   2. Checked micro switches - defective. Visual inspection. (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced switches.
   2. Operated circuits. Operation satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1/2 hour
   (b) Actual Repair Work Time: 1/2 hour
10. Cause:
    Weather conditions -- moisture.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:

103.44

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   3" Lighting Circuit MK 16 MOD O (p. 290, fig. 173)
3. Sub-Assembly:
   Elevation Scale Lamp and Cable Twist Indicator
4. Part or Piece:
   Lamp fuse (inside illuminating transformer casing)
5. Description of Casualty:
   No illumination to elevation scale and cable twist dial.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks
7. Casualty Analysis:
   1. Gave visual check of illunination circuit - noted that e ampere glass type fuse was faulty.
      (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced fuse.
   2. Tested out circuit - operated normal.
9. Time Involved:
   (a) Equipment inoperative: 1/2 hour
   (b) Actual Repair Work Time: 1/2 hour
10. Cause:

11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
103.39

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   3"/50 Amplidyne Power Drives
3. Sub-Assembly:
   Electric Cable (General arrangement beneath carriage)
4. Part or Piece:
   Wire (ACC) (p. 276, figs. 165, 166)
5. Description of Casualty:
   No operation of mount in local or automatic control.
6. Conditions Under which Casualty Occurred:
   Routine exercising of equipment during daily transmission checks.
7. Casualty Analysis:
   1. Tested mount operative - none.
   2. Tested tubes in all amplifiers - satisfactory.
   3. Gave all sections of power drives complete check -- everything looked satisfactory.
   4. Checked cables between mount and below decks components for opens, shorts or grounds.
   5. Found wire ACC between mount and MK 65 control panel to be open.

   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Replaced open wire with spare.
   2. Tested mount operation in local and automatic control -- satisfactory.
9. Time involved:
   (a) Equipment inoperative: 2 days
   (b) Actual Repair Work Time: 8 hours
10. Cause:
    Faulty Cable.
11. Remarks and Recommendations:
    The above casualty is similar to all opens. The procedure is general for all similar casualties.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

WEAPON COMPONENT

GUN ASSEMBLY

GUN ASSEMBLY - 2b

CASUALTY REPORT FORM

From:
To:

SHIP:

101.4

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Housing Assembly MK 8 MOD 1
3. Sub-Assembly:
   Breech Mechanism
   Breechblock
4. Part or Piece:
   Extractor Latch Pawl,
   Pawl Spring, Pawl Plunger (pp. 54-55)
5. Description of Casualty:
   Case failed to extract after firing. Extractor inoperative.
6. Conditions Under which Casualty Occurred:
   Automatic AA, Director Control.
   Mount exposed to seas.
7. Casualty Analysis:
   1. Breechblock closed by hand. Extractors failed to work.
   2. Checked by hand to see if latch pawl was engaged in extractor latch -- negative.
   3. Casualty had to be the latch pawl under this condition.
8. Remedial Action Taken:
   1. Disassembled breechblock according to OP 1566, pp. 54-55. Inspected all parts.
   2. Pawl spring and pawl plunger were corroded with rust. Parts cleaned and lubricated.
   3. Breech reassembled.
9. Time Involved:
   (a) Equipment inoperative: 3 hours
   (b) Actual Repair Work Time: 3 hours
10. Cause:
    1. Lack of lubrication. (pp. 43-44)
11. Remarks and Recommendations:
    Breech disassembled and cleaned periodically.
    (Ref. OP 1566, pp. 51-55)

Signed: _____
(Gunnery Officer)

J-942
CRF-1

GUN ASSEMBLY - 2b

CASUALTY REPORT FORM

From:
To:

SHIP:
101.6

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (3"/50 RFTM MK 33 MOD O)
   (OP 1566)
2. Main Assembly:
   Housing Assembly
3. Sub-Assembly:
   Breech Mechanism (Housing MK 8 MOD 2 - Single)
   Breechblock (Housing MK 8 MOD 1 - Twin)
4. Part or Piece:
   Extractor and Latch Pawl. (p. 54)
5. Description of Casualty:
   Breechblock up about one inch and new round in the chamber. Breechblock would not close.
6. Conditions Under which Casualty Occurred:
   Firing AA, Automatic Director Control, and exercising mount.
7. Casualty Analysis.
   TWIN -1. Attempted to lower breechblock, would not "bottom".
   2. Attempted to raise it without success.
   3. Jiggled breechblock by using breech opening handle, which allowed breechblock to "bottom" after several minutes of effort.
   4. Round was removed from chamber manually.
   5. Used a flashlight to look up into side of breech at extractor latches and saw left extractor pawl was beneath the inner lug of the left extractor.
8. Remedial Action Taken:
   TWIN -1. Secured mount.
   2. Used a long, narrow screw driver to move extractor pawl over extractor while holding breech down with breech handle.
   3. Breechblock was closed manually.
   4. Breech exercised and worked normally.
   5. Disassembled breechblock and replaced left and right extractors and left extractor latch pawl.
   6. Reassembled block.
   7. Checked operation -- everything normal. No further trouble.

   SINGLE - All of the above with exception of round. Gun was not being fired. Despite replacement of all new parts on single, casualty has recurred two more times.

GUN ASSEMBLY - 2b

CASUALTY REPORT FORM

SHIP: 101.6 (Cont'd)

9. Time Involved:
   (a) Equipment inoperative: 4 hours
   (b) Actual Repair Work Time: 3 hours
10. Cause:
   Twin mount - unknown.
   Single mount - (see Item 8)
   No explanation except possible fault in housing. Had not recurred in following six months.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

GUN ASSEMBLY - 2b

CASUALTY REPORT FORM

From:
To:

SHIP:
101.7

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Housing MK 8 MOD 1
3. Sub-Assembly:
   Breech Mechanism - Breechblock (p. 21, fig. 18)
4. Part or Piece:
   Extractor latch pawl plunger (p. 21, fig. 18)
5. Description of Casualty:
   While checking operation of extractors, right extractor failed to extract or function properly.
6. Conditions Under which Casualty Occurred:
   Exercising breechblock.
7. Casualty Analysis:
   1. Attempted to latch it by hand, but it would not.
   2. Because of nature of casualty, expect to find malfunction of latch pawl and latch.
8. Remedial Action Taken:
   1. Disassembled breechblock (p. 54)
   2. Found latch pawl plunger was bent and in compressed position, making pawl inoperative.
   3. Replaced latch pawl assembly.
   4. Reassembled breechblock.
   5. Exercised by hand -- operation satisfactory.
      (GM3 supervised by GM1)
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 1 1/2 hours
10. Cause:
    Unknown.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
102.6

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1566)
2. Main Assembly:
   Gun Assembly:
3. Sub-Assembly:
   Breech Housing MK 8 MOD 2
   Breechblock
4. Part or Piece:
   Case did not extract (pp. 33-41)
5. Description of Casualty:
   Gun fired, but case did not extract. Breechblock open and closed. Bore clear light out. Salvo latch was not tripped and was treated as a loaded gun.
6. Conditions Under which Casualty Occurred:
   Firing AA practice. Director Control, Automatic.
7. Casualty Analysis:
   1. Gun ceased firing.
   2. Bore clear light out.
   3. Salvo latch not tripped.
   4. Firing lead checked and found OK.
   5. Misfire determined.
8. Remedial Action Taken:
   1. Waited one-half hour. Treated it as a misfire.
   2. Unloaded gun.
   3. Empty case came out.
   4. Check hold down lever to hold down latch lever for freedom of movement.
   5. Check case for faulty extraction.
9. Time Involved:
   (a) Equipment inoperative: 3 hours
   (b) Actual Repair Work Time: Opening breech time only.
10. Cause:
    1. Hold down lever not latching in hold down latch lever and empty case not extracted properly.
11. Remarks and Recommendations:
    Casualty not common because the two causes mentioned above must happen together in order to give action described.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

GUN ASSEMBLY - 2b

CASUALTY REPORT FORM

From:
To:

SHIP:
102.11

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1566)
2. Main Assembly:
   Gun Assembly
3. Sub-Assembly:
   Housing Assembly MK 8 MOD 2
   Breechblock Hold Down Mechanism
4. Part or Piece:
   Some part of entire mechanism (pp. 24-27, fig. 21)
5. Description of Casualty:
   During firing, a live round was rammed into the breechblock which had not remained open. Shell was angled upward -- and bent right shell finger. Carriage sprung.
6. Conditions Under which Casualty Occurred:
   Automatic AA - Director Control - five rounds had been fired.
7. Casualty Analysis:
   Visual inspection.
8. Remedial Action Taken:
   1. Disposed of round.
   2. Operated breechblock manually -- appeared to operate normally.
   3. Shot oil into mechanism.
   4. Disassembled breechblock. (pp. 52-54, figs. 61, 62)
   5. Visual inspection -- no parts replaced.
   6. Reassembled. Shell finger replaced. (pp. 274, 275)
   7. Carriage straightened. (p. 276)
   8. Operation normal.
9. Time Involved:
   (a) Equipment inoperative: 1 week
   (b) Actual Repair Work Time: 4 days
10. Cause:
    Faulty lubrication.
11. Remarks and Recommendations:
    Use compressor oil gun to lubricate. Difficult to lubricate.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

GUN ASSEMBLY - 2b

CASUALTY REPORT FORM

From:
To:

SHIP:

102.12

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1566)
2. Main Assembly:
   Gun Assembly
3. Sub-Assembly:
   Housing Assembly MK 8 MOD 2
   Breech Mechanism - Breechblock (p. 21, fig. 18)
4. Part or Piece:
   Right Extractor latch pawl (p. 21, fig. 18)
5. Description of Casualty:
   Breechblock failed to close.
6. Conditions Under which Casualty Occurred:
   Firing small drone practice -- AA Director Control Automatic.
7. Casualty Analysis:
   1. Breechblock failed to close completely.
   2. Opened manually.
   3. Piece of latch pawl fell out into gun pit.
8. Remedial Action Taken:
   1. Disassembled breechblock. (p. 54.)
   2. Replaced both extractor latch pawls.
   3. Reassembled.
   4. Operated manually.
   5. Operation normal.

   (GM3 supervised by GM1)
9. Time Involved:
   (a) Equipment inoperative: 1 1/2 days
   (b) Actual Repair Work Time: 2 hours
10. Cause:
    Material defect in pawl.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

GUN ASSEMBLY - 2b

CASUALTY REPORT FORM

From:
To:

SHIP:

103.18

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 OP 1566
2. Main Assembly:
   Gun Assembly MK 8 MOD 1
3. Sub-Assembly:
   Housing Assembly
   Breech Mechanism
4. Part or Piece:
   Shell Lock (pp. 27-28; pp. 52-53)
5. Description of Casualty:
   Live round ejected before breechblock closed.
6. Conditions Under which Casualty Occurred:
   Firing AA Director Control -- Automatic.
7. Casualty Analysis:
   Shell lock did not hold round in -- breech remained open.
8. Remedial Action Taken:
   1. Disassembled shell lock, inspected. (p. 27; pp. 52-53)
   2. Reassembled.
   3. Operation check -- normal.
9. Time Involved:
   (a) Equipment inoperative: 1 1/2 hours
   (b) Actual Repair Work Time: 1 1/2 hours
10. Cause:
    1. Foreign matter obstructing shell lock.
    2. Slow ram action due to slow extraction of previous round. OP 1566, p. 244.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:

104.42

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Gun Assembly
3. Sub-Assembly:
   Breech Mechanism (p. 18, fig. 14)
   Breechblock (p. 34, fig. 31)
4. Part or Piece:
   Possibly Hold Down Mechanism (pp. 25-27; p. 24, fig. 21)
5. Description of Casualty:
   Breechblock closed during firing - during routine AA training practice.
6. Conditions Under which Casualty Occurred:
   Firing routine training practice - had fired 30 rounds in two previous runs and 10th round on run in which casualty occurred.
7. Casualty Analysis:
   1. Check casualty analysis panel (Gun Captain's panel) Noted breechblock closed.
   2. Cut power on rammer motor. Motor stopped.
   3. Wait 30 minutes - safety precaution.
   4. Remove all excess personnel from mount. Safety precaution.
   5. Open breechblock by hand - under Gunner's supervision.
   6. Breech was empty. No casualties, no broken parts.
      (GM1 supervised by Gunner)
8. Remedial Action Taken:
   1. Everything in loader checked - same as prefiring checkoff. No remedial action necessary.
   2. Checked breech opening cam for scoring or binding (p. 281, fig. 303, piece #58).
   3. Checked extractors for damage.
9. Time Involved:
   (a) Equipment inoperative: 40 minutes
   (b) Actual Repair Work Time: 10 minutes
10. Cause:
    Unknown
11. Remarks and Recommendations:
    OP discrepancy in terminology. P. 40, fig. 48, part is listed "Breechopening cam." P. 281, fig. 303, same part is listed "Breech operating cam."

Signed: _____
(Gunnery Officer)

J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
104.43

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Gun Assembly
3. Sub-Assembly:
   Housing Assembly MK 5 MOD O
4. Part or Piece:
   Shell Lock (p. 53, fig. 61, piece #15)
   Lifting Spring Retaining Pin (p. 27; p. 26, fig. 22)
5. Description of Casualty:
   Using dummy round in check-off, round failed to extract when breech was opened manually. Shell lock had not released. Difficult to bottom breechblock.
6. Conditions Under which Casualty Occurred:
   Routine exercising of equipment during daily transmission checks.
7. Casualty Analysis:
   1. Visually inspect shell lock.
   2. Shell lock did not move up into release position to allow round to extract.
   3. Lifting spring retaining pin was too weak to hold slide lifting spring. (p. 53, fig. 61, piece # 11.)
8. Remedial Action Taken:
   1. Removed shell lock carrier. (p. 53, fig. 61, piece #8; p. 26, fig. 22; p. 27)
   2. Disassembled shell lock carrier as in OP 1566 (p. 53, fig. 61.)
   3. Replace lifting spring retaining pin.
   4. Reassemble shell lock carrier.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 25 minutes
10. Cause:
    Lifting spring retaining pin too weak.
11. Remarks and Recommendations:
    Stronger lifting spring retaining pin.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

GUN ASSEMBLY - 2b

CASUALTY REPORT FORM

From:
To:

SHIP:

104.44

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Gun assembly
3. Sub-Assembly:
   Breech Mechanism (p. 19, fig. 16)
4. Part or Piece:
   Operating Spring Connecting Rod (p. 22, fig. 19)
5. Description of Casualty:
   Loader stopped cycling
6. Conditions Under which Casualty Occurred:
   When firing routine AA training practice.
   During routine maintenance.
7. Casualty Analysis:
   1. Bore - clear light out.
   2. Visual inspection showed breechblock down -- round in the chamber.
   3. Check action of breech closing spring and rod -- rod broken.

   (GM 3 supervised by GMC)
8. Remedial Action Taken:
   1. Disassemble breech operating spring unit (p. 53, fig. 61)
   2. Replace broken parts.
   3. Reassemble and adjust breech operating spring (pp. 50-51; p. 50, fig. 60).
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 30 minutes
10. Cause:
    Normal wear and material failure.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
102.5, 101, 103, 104

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1566)
2. Main Assembly:
   Gun Assembly
3. Sub-Assembly:
   Housing Assembly MK 8 MOD 2
   Firing Mechanism - Breechblock
4. Part or Piece:
   Firing Leads (pp. 20-21, fig. 17 and 18)
5. Description of Casualty:
   Firing lead break right ahead of breechblock.
6. Conditions Under which Casualty Occurred:
   Firing conditions.
   Director control -- Automatic.
7. Casualty Analysis:
   1. Gun loaded -- does not fire. Bore clear switch light is out.
   2. Loaded gun reported.
   3. Visual inspection disclosed firing lead was cut.
8. Remedial Action Taken:
   1. Clear gun.
   2. Replace firing lead.
9. Time Involved:
   (a) Equipment inoperative: 15 minutes
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    When gun fires, in counter recoil when breechblock goes up, catches the lead which is presumed to be knocked off in recoil of gun and shears the lead.
11. Remarks and Recommendations:
    Make lead covering of a material that grease and oil will not deteriorate. Demolition wire works well.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
101.8, 104.45

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Gun Assembly MK 8 MOD 1 - MOD 2
3. Sub-Assembly:
   Breech Housing and Gun Assembly
4. Part or Piece:
   Shell Case and Gun chamber (p. 19, fig. 16)
5. Description of Casualty:
   Case did not extract.
6. Conditions Under which Casualty Occurred:
   Firing AA - Director Control, Automatic
7. Casualty Analysis:
   1. Extractors functioned properly.
   2. Rim of case torn, steel cases.
   3. Case jammed in chamber.
8. Remedial Action Taken:
   1. Stopped motor.
   2. Removed case by using hand extractors.
   3. Visual inspection of all parts.
   4. Exercised breech-operation normal.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    Faulty case - case pitted, had rough surface after firing. Not rusty nor was chamber rusty. No abnormal condition observable before firing.
11. Remarks and Recommendations:
    More thorough inspection of material at depot.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:

103.3

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Gun Assembly
3. Sub-Assembly:
   Breech Housing and Gun Assembly MK 8 MOD 1
4. Part or Piece:
   Shell Case and Gun Chamber
5. Description of Casualty:
   Empty case did not extract from breech.
6. Conditions Under which Casualty Occurred:
   During Firing AA Director Control Automatic
7. Casualty Analysis:
   1. Breech did not bottom.
   2. Treated it as a misfire.
   3. Disassembled breech.
   4. Extractors tore the rim of the cartridge. No failure of extractors or mechanism - no broken parts.
8. Remedial Action Taken:
   1. Pulled breechblock to remove case.
   2. Forced case out.
   3. Cleaned, inspected, lubricated and reassembled breechblock.
   4. Check operation in manual.
   5. Checked operation in power.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Oversize Steel Case
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

WEAPON COMPONENT

SLIDE

SLIDE - 1

CASUALTY REPORT FORM

From:
To:

SHIP:

101.1

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Slide MK 26 MOD 1 (Left Gun) MK 26 MOD 0 (Right Gun)
3. Sub-Assembly:
   Slide Liner and Barrel MK 22 MODS 4 and 5
4. Part or Piece:
   Slide cylinder and slide liner (p. 62, fig. 70)
5. Description of Casualty:
   Scars and scratches on upper portion of slide cylinder.
6. Conditions Under which Casualty Occurred:
   Foreign matter, dirt, grit, particles of wire brush fall on and adhere to grease on slide cylinder. Particles carried into liner, and imbedded in slide liner when gun is fired.
7. Casualty Analysis:
   Visual inspection of slide cylinder scoring observable. Constant check over a period of time, after firing, showed scratches to be increasing in depth.
8. Remedial Action Taken:
   1. MK 22 Barrel removed according to OP 1566, procedure for MK 26 MODS 1 and 0, slide, OP 1566, pp. 77-80.
   2. Slide cylinder stoned down.
   3. Removed particles from liners, picked out with a scriber.
   4. Liners stoned.
   5. Lubricate and reassemble.
9. Time Involved:
   (a) Equipment inoperative: 14 hours (or two days) first time - 6 hours thereafter.
   (b) Actual Repair Work Time: 14 hours first time - 6 hours thereafter.
10. Cause:
    Lack of protection over slide cylinder.
11. Remarks and Recommendations:
    1. Make canvas cover protector to cover spring and slide cylinder.
    2. Design a protector of felt or suitable material to wipe slide cylinder surface on recoil, to prevent particles being carried into liner.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

WEAPON COMPONENT

LOADER

LOADER - 1a

CASUALTY REPORT FORM

From:
To:

SHIP:

101.17

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Loader Drive Unit
4. Part or Piece:
   Oldham Coupling (sleeve and adjusting worn screw) pp. 90-91, fig. 102.
5. Description of Casualty:
   Loader tray functioned normally. The front and rear gates inoperative.
6. Conditions Under which Casualty Occurred:
   1. Routine exercising of equipment during daily transmission checks. (Local surface)
   2. Firing routine AA - training practice.
7. Casualty Analysis:
   1. Operate in Manual - watch operation of gates - gates inoperative.
   2. Main operating shaft was inoperative - this drives the gate operating cam.
8. Remedial Action Taken:
   1. Remove left side plate of loader housing. (pp. 252-253, fig. 280)
   2. Remove and replace broken coupling (pp. 90-91; pp. 252-253, fig. 280)
   3. Adjust gates and main cam shaft coupling. (Tighten clamping cap screw) (p. 217)
   4. Reassemble.
   5. Check in manual and power.
9. Time Involved:
   (a) Equipment inoperative: first time - 7 days; others -4 hours
   (b) Actual Repair Work Time: 4 hours
10. Cause:
    Clamping cap screw not properly secured. At installation operation normal during first 3 or 4 months. Then continuous operation caused stripping of sleeve and adjusting screw because of misalignment.
11. Remarks and Recommendations:
    Check prior to first operation after installation.
    Check about after 1 month's operation for any looseness caused by vibration.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:

101.17a

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Loader Drive Unit (pp. 90-91; p. 91, fig. 102)
4. Part or Piece:
   Oldham Coupling -- Timing
5. Description of Casualty:
   Front and rear gates out of time.
6. Conditions Under which Casualty Occurred:
   Routine exercising of mount or routine fixing.
7. Casualty Analysis:
   1. Visually check exterior linkage to front and rear gates for bent or broken parts. (p. 130, fig. 132)
   2. Check timing of gates in manual cycle.
   3. If timing is out, adjust by means of Oldham coupling on main cam shaft.
8. Remedial Action Taken:
   1. Install and zero protractor on main cam shaft (p. 209; p. 209, fig. 228; p. 298)
   2. Remove top cover plate from loader drive unit. (p. 91; fig. 102; p. 90)
   3. Install dial indicator on front gates (p. 301)
   4. Loosen cap screw and adjust coupling worm to time front gates (p. 217, fig. 242)
   5. Clamp cap screw securely. Replace cover. (p. 217, fig. 242)
   6. Entire Oldham coupling must be replaced when the coupling adjusting worm is sheared. (p. 91)
9. Time Involved:
   (a) Equipment inoperative: 1 1/2 hours
   (b) Actual Repair Work Time: 1 hour
10. Cause:
   1. Clamp cap screw not properly secured.
   2. Clamp cap screw backed off with use - no positive lock.
11. Remarks and Recommendations:
   1. Periodically check the clamp screw for tightness.
   2. (a) OP deficiency -- no instruction on use of dial, indicators on this adjustment.
      (b) Does not emphasize the securing of the clamping cap screw.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
101.9, 103.4

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Loader Drive Unit Control Mechanism (p. 95, fig. 106)
4. Part or Piece:
   Pin in Declutch Sleeve Body (pp. 260, 261, fig. 287)
   (pp. 98-99)
5. Description of Casualty:
   Load cycle starts normally and declutches after tray is started down.
6. Conditions Under which Casualty Occurred:
   Exercising loader unit.
7. Casualty Analysis:
   1. Cut power.
   2. Completed cycle by hand. Started cycle manually.
   3. Loader declutched again, which eliminated overcycling.
   4. Trouble was in loader drive unit assembly.
   5. Finished cycle by hand.
8. Remedial Action Taken:
   1. Removed top cover plate of main housing. (p. 95, fig. 106)
   2. Started manual cycle while observing action of control mechanism. (pp. 98-99; p. 97, fig. 107)
   3. It was noted that the reset collar would not engage with the latch plunger.
   4. After declutch lever rode off the high point of the lug cam, the unit would declutch.
   5. Inspection disclosed sheared pin through the declutch sleeve body and clutch shipper shaft. (p. 94, fig. 105; p. 261, fig. 287)
   6. Removed pieces of broken pin.
   7. Replaced pin from spares.
   8. Exercised unit.
   9. Replaced cover.
9. Time Involved:
   (a) Equipment inoperative: 4 hours
   (b) Actual Repair Work Time: 2 hours
10. Cause:
    Constant jarring apparently weakened soft steel pin. Material failure.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

LOADER - 1c

CASUALTY REPORT FORM

From:
To:

SHIP:
104.46, 101.10, 103.5

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5 and 6 (p. 95, fig. 106).
3. Sub-Assembly:
   Drive Control Mechanism
   Declutch Shipper Sleeve Assembly (p. 94, fig. 105; p. 95, fig. 106)
4. Part or Piece:
   Reset collar Pin (pp. 260-261, piece #25)
   Clutch shipper shaft - control lever collar pin.
5. Description of Casualty:
   Loader tray starts cycle but will not complete cycle.
   Stops about mid-cycle.
6. Conditions Under which Casualty Occurred:
   1. When firing AA training practice.
   2. When dry cycling or testing loaders.
7. Casualty Analysis:
   1. Cut loader motor.
   2. Complete cycle manually.
   3. Try power cycle again.
   4. Remove top cover plate of main housing and check reset collar (p. 90; p. 91, fig. 102).
   5. Check the action of latch plunger for freedom of movement and for latching action with the reset collar, clutch engaged (p. 95, fig. 106; pp. 98-100).
   6. Check attachment of control lever collar to shipper shaft (p. 95, fig. 106).

   (This was a sheared pin on reset collar)
   (GM3 supervised by GMC)
8. Remedial Action Taken:
   1. Remove broken parts of sheared pins.
   2. Replace broken or damaged parts (p. 261, fig. 287).
   3. Replace main housing top cover plate.
   4. Check operation in power without ammunition.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 30 minutes
10. Cause:
    Design weakness.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:

101.5

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Loader Drive Unit - Control Mechanism Buffer
4. Part or Piece:
   Buffer Stop Mechanism.
   Over-travel -- Spring Plunger and Bell Crank (pp. 100-103; p. 101, fig. 108).
5. Description of Casualty:
   Tray part way down, clutch disengaged, motor idling, over travel.
6. Conditions Under which Casualty Occurred:
   Exercising equipment in power.
   (Will occur in any type control.)
7. Casualty Analysis:
   Motor idles, tray started. Clutch disengaged. Adjustment indicated.
   1. During power operation, cycling ceases, motor idling.
   2. Loader not at zero position.
   3. Tray up switch open as shown by Gun Captain's indicator panel.
8. Remedial Action Taken:
   1. Shut off loader motor and hand cycle to bring loader to zero position.
   2. Drain oil from buffer drive housing (p. 100).
   3. Remove buffer drive housing cover (p. 100).
   4. Adjust buffer stop mechanism in accordance with OP 1566 (1st rev.) (p. 216).

   or

   a) Measure the clearance between the piston cam and the stop plate.
   b) To this measurement, add .169 inches.
   c) The sum of the first measurement and .169 inches is the amount the spring plunger should protrude from the stop plate.
   d) Adjust the adjustable stud on connecting link to obtain the proper protrusion of spring plunger.
9. Time Involved:
   (a) Equipment inoperative: 20 minutes
   (b) Actual Repair Work Time: 20 minutes
10. Cause:
   1. Expansion difference in temperature - mainly.
   2. Lock nut on adjusting stud not tight.

LOADER - 1d

CASUALTY REPORT FORM

SHIP: 101.5 (Cont'd)

11. Remarks and Recommendations:
OP deficiency - Nomenclature difference - p. 100 adjustable connecting link - p. 265, part #6 adjusting stud. These are the same parts.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
104.47

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5 and 6 (p. 101, fig. 108).
3. Sub-Assembly:
   Loader Drive Unit
   Control Mechanism Buffer (p. 102, fig. 109).
4. Part or Piece:
   O-Ring (p. 257, fig. 285).
5. Description of Casualty:
   Oil leaks out of piston of main control buffer.
6. Conditions Under which Casualty Occurred:
   Routine exercising of equipment during daily transmission checks - Local control.
7. Casualty Analysis:
   Noticed leakage of oil around control mechanism buffer piston.
8. Remedial Action Taken:
   1. Drain unit (p. 100).
   2. Disassembly Control Mechanism Buffer (p. 263; p. 257, fig. 285).
   3. Visually examine buffer piston for scored surface.
   4. Replace O-ring.
   5. Reassemble control mechanism buffer.
   6. Refill with oil (p. 208).
   7. Check for proper action of buffer by power cycling loader.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 2 hours
10. Cause:
    Normal wear.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER -1g

CASUALTY REPORT FORM

From:
To:

SHIP:
101.12, 103.12

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Loader Drive Unit
   Control System Parts
4. Part or Piece:
   Cam Drive Shaft - Loading Switch Cam - MK 2, MOD 5
   (p. 234; p.106; p.235, fig. 271)
5. Description of Casualty:
   Cam Drive shaft broke off, making loading switch inoperative.
6. Conditions Under which Casualty Occurred:
   Exercising mount.
7. Casualty Analysis:
   Cam and broken shaft fell on the deck. Both loading solenoid plungers thus were extended which would prevent loading of hoppers.
8. Remedial Action Taken:
   1. Drain loader drive unit. (p. 92, fig. 103)
   2. Remove Main housing right side cover. (p. 252, fig. 280)
   3. Remove cam drive shaft and replace.
   4. Replace right side cover.
   5. Refill with oil (NS 3042) (p. 90; p. 92, fig. 103)
   6. Inspect loading switch cams for damage and need for replacement.
   7. Replace right and left micro switches, adjust according to OP procedure. (p. 234; p. 235, fig. 271)
   8. Check in power operation using dummy rounds.
9. Time Involved:
   (a) Equipment inoperative: 1 day
   (b) Actual Repair Work Time: 4 hours
10. Cause:
    Wear on the plungers of the micro switch caused binding which prevented the plunger from being cammed down, jammed cams, and broke shaft.
11. Remarks and Recommendations:
    The new micro switches extended further into the cam than the old ones did so that there was not the proper camming action which caused the shaft to break again. Replace all switch and cam arrangements as shown on page 235 of OP 1566 with type shown on page 236, fig. 272, so that adjustments may be made and allow a straight push on the plungers.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 1g

CASUALTY REPORT FORM

From:
To:

SHIP:

101.15

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK2 MOD 5
3. Sub-Assembly:
   Loader Drive Unit-Control System Parts (p. 105, fig. 113)
4. Part or Piece:
   Loader runs away - linkage from Loader Clutch Solenoid and Connecting Rod.
5. Description of Casualty:
   Loader runs away
6. Conditions Under which Casualty Occurred:
   Exercising mount.
7. Casualty Analysis:
   1. When loader runs away, the first check is whether mechanical or electrical by shutting down motor, and completing cycling manually.
   2. If loader will continue to recycle manually, it is determined to be mechanical.
   3. If the loader stops at zeroing position in manual, this indicates casualty is more likely to be electrical.
8. Remedial Action Taken:
   1. Remove clutch solenoid housing front cover to see if solenoid and linkage is in engaged position. (p. 240; p. 255, fig. 283).
   2. If engaged, something is in binding condition.
   3. Check all linkage in clutch solenoid housing, and free seizing linkage.
   4. Exercise manually for normal operation.
   5. If the trouble is determined to be electrical, check solenoid for proper engagement and disengagement; check solenoid return spring action. (p. 240).
   6. Replace cover.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 30 minutes
10. Cause:
    Improper lubrication and/or faulty gaskets.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:

102.10

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 6
3. Sub-Assembly:
   Left side Plate
4. Part or Piece:
   Breech opening (operating) cam (p. 108, fig. 116; pp. 280, 281, fig. 303, piece #58)
5. Description of Casualty:
   Breech opening cam was beaten up due to fact left side plate was not machined to proper depth. Result of visual inspection after BuOrd letter was received. No casualties however.
6. Conditions Under which Casualty Occurred:
   No casualty in operation.
7. Casualty Analysis:
   See above - visual inspection.
8. Remedial Action Taken:
   1. Disassemble left side plate (pp. 280-284)
   2. Cams filed and stoned down to remove burrs.
   3. Left side plate machined to proper specifications at yard.
   4. Reassemble.
9. Time Involved:
   (a) Equipment inoperative: 2 days
   (b) Actual Repair Work Time: 2 hours
10. Cause:
    Faulty machining on left side plate which would not allow proper seating of breech opening cam. (American Machine and Foundry was manufacturer)
11. Remarks and Recommendations:
    BuOrd material letter G3-52

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 2f

CASUALTY REPORT FORM

From:
To:

SHIP:
104.48

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5 and 6
3. Sub-Assembly:
   Left Side Plate (p. 108, fig. 116; p. 113)
   Breech Mechanism Parts
4. Part or Piece:
   Breech Opening (Operating) Cam (pp. 280-281, piece #58)
5. Description of Casualty:
   Breech Opening Shaft gouged breech opening cam.
6. Conditions Under which Casualty Occurred:
   Firing routine AA training practice.
7. Casualty Analysis:
   1. Visually check breech opening cam.
   2. Remove damaged breech opening cam.
   3. Measure bearing strip on top of breech opening cam for proper width on left side plate. It was not the proper width.
8. Remedial Action Taken:
   1. If bearing strip on side plate on top of breech opening cam is not proper width, disassemble as in OP 1566 (pp. 282-284), and turn into yard or repair tender for repairs.
   2. Reinstall side plate and reassemble.
      (GM1 disassembled and installed sideplate.) Chief supervised, yard or tender did repair work. Time -- 9 days.
9. Time Involved:
   (a) Equipment inoperative: 9 days
   (b) Actual Repair Work Time: 7 days
10. Cause:
    Bearing strip on side plate improper width.
11. Remarks and Recommendations:
    BuOrd material letter G3-52.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 3c

CASUALTY REPORT FORM

From:
To:

SHIP:
104.49

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5 and 6
3. Sub-Assembly:
   Right Side Plate (p. 117, fig. 123)
   Tray Lower Buffer (pp. 116-118; p. 118, fig. 124)
4. Part or Piece:
   O-Ring
5. Description of Casualty:
   Oil leaks out of housing through buffer piston and O-ring.
6. Conditions Under which Casualty Occurred:
   During routine maintenance.
7. Casualty Analysis:
   1. Visually check for oil leak.
   2. If found leaking wipe with rag.
   3. Manually compress buffer 2 or 3 times.
   4. Visually check again for leak.
   5. If found leaking replace O-ring.
8. Remedial Action Taken:
   1. Disassemble buffer mechanism. (p. 272, fig. 296; p. 278)
   2. Remove buffer piston, O-Ring.
   3. Inspect buffer piston for scoring.
   4. Install new O-ring. (p. 272, fig. 296; p. 278)
   5. Reassemble buffer Mechanism.

   (GM3 supervised by GM1)
9. Time Involved:
   (a) Equipment inoperative: mount will not be inoperative
   (b) Actual Repair Work Time: 45 minutes
10. Cause:

11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 3d

CASUALTY REPORT FORM

From:
To:

SHIP:
101.19, 103.13

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Right Side Plate
4. Part or Piece:
   Connecting Shaft and Fulcrum Stud. (p. 24, fig. 21; p. 277, fig. 301, pieces #8, 10, 17, 47).
5. Description of Casualty:
   Hold down mechanism fails to operate and loader inoperative in power.
6. Conditions Under which Casualty Occurred:
   Prefiring check off and exercising.
7. Casualty Analysis:
   Breechblock down switch does not make contact and hold down lever roller is off the operating shaft hold down arm. Hold down lever action is very stiff.
8. Remedial Action Taken:
   1. Run gun out of battery.
   2. Disassemble according to OP 1566, p. 278. Renew parts, connecting shaft and fulcrum stud and hold down lever.
   3. Reassemble.
9. Time Involved:
   (a) Equipment inoperative: 3 1/2 hours
   (b) Actual Repair Work Time: 3 1/2 hours
10. Cause:
    Unknown. Possibility of constant banging of hold down lever and roller against operating shaft hold down arm and improper lubrication.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 3d

CASUALTY REPORT FORM

From:
To:

SHIP:
102.9

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1566)
2. Main Assembly:
   Loader
3. Sub-Assembly:
   Right Side Plate
   Breech Hold down Mechanism (p. 24, fig. 21)
4. Part or Piece:
   Lifting Cam (p. 277, piece #11)
5. Description of Casualty:
   Breechblock remained open. Loader kept cycling, live rounds were being loaded and ejected.
6. Conditions Under which Casualty Occurred:
   AA firing Director Control, Automatic. Firing at sleeves.
7. Casualty Analysis:
   1. Cease firing - cut power.
   2. Attempted to trip breechblock mechanism to close block - would not release.
   3. Tried to trip extractors and pawls by reaching in with a screw driver, which finally allowed breech to close.
8. Remedial Action Taken:
   1. Jacked gun out of battery and disassembled hold down mechanism. (pp. 277-278)
   2. Found lifting cam was cracked. Visual inspection.
   3. Replaced lifting cam from spares.
   4. Reassembled.
   5. Checked breechblock operation manually.
   6. Checked operation in manual.
   7. Checked in power.

   (GM3 supervised by GM1)
9. Time Involved:
   (a) Equipment inoperative: 2 days
   (b) Actual Repair Work Time: 8 hours
10. Cause:
    Perhaps faulty material in lifting cam. Has not recurred. No other faulty piece found, therefore unable to attribute cause to anything else.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 3d

CASUALTY REPORT FORM

From:
To:

SHIP:

104.50

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5 and 6
3. Sub-Assembly:
   Right side plate (p. 117, fig. 123)
   Breech operating parts (pp. 118-121)
4. Part or Piece:
   Breech Hold-down Device (p. 277, fig. 301)
5. Description of Casualty:
   1. Hold down mechanism would not hold the breechblock in the down position.
6. Conditions Under which Casualty Occurred:
   Routine exercising of equipment during daily transmission.
7. Casualty Analysis:
   1. Manually bottom plug several times and breech hold-down mechanism would not hold.
   2. Disassemble hold down mechanism (as shown on p. 277, fig. 301)
   3. Straighten or replace any damaged parts. Check for freedom of pivoting device of hold down lever and visually inspect hold down lever spring.
   4. Reassemble mechanism.

   (GM3 supervised by GM1)
8. Remedial Action Taken:
   Clean off all parts and reassemble (p. 276).
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 2 hours
10. Cause:
    Improper lubrication.
11. Remarks and Recommendations:
    Proper lubrication and exercise.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 3e

CASUALTY REPORT FORM

From:
To:

SHIP:
104.51

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5-6
3. Sub-Assembly:
   Right Side Plate (pp. 116-117, figs. 122, 123)
   Control System Parts (p. 121)
4. Part or Piece:
   Breechblock down switch adjustment (p. 231, fig. 266)
5. Description of Casualty:
   No loading circuit when breechblock is open. Gun stopped firing.
6. Conditions Under which Casualty Occurred:
   Firing Routine AA Training - had fired 16 rounds on two previous runs, and 4 rounds on run in which casualty occurred.
7. Casualty Analysis:
   1. Check gun captain's panel. Noticed breechblock light was out, indicating breechblock was not open.
   2. Visual check -- then pull breechblock handle down to make sure breechblock is fully open. Light not on.
   3. Indication was that the casualty was a result of adjustment on breechblock down switch.

   (GM3 supervised by GM1)
8. Remedial Action Taken:
   1. Make adjustment as in procedure given in OP 1566, pp. 231-232.
9. Time Involved:
   (a) Equipment inoperative: 15 minutes
   (b) Actual Repair Work Time: 5 minutes
10. Cause:
    Locknut on adjusting screw worked loose.
11. Remarks and Recommendations:
    Locknut on adjusting screw should be checked daily.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 4a

CASUALTY REPORT FORM

From:
To:

SHIP:
104.52, 101.13, 103.6

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5 and 6
3. Sub-Assembly:
   Hopper Front Frame
   Feed Sproket Gearing (p. 123, fig. 128; pp. 124-125, fig. 129).
4. Part or Piece:
   Shear Pin. (pp. 268-269, fig. 294, piece #108)
5. Description of Casualty:
   When pin is sheared loader will continue to cycle but sprockets will not rotate to feed ammunition.
6. Conditions Under which Casualty Occurred:
   When firing AA routine training practice or during daily check off.
7. Casualty Analysis:
   1. Gun has ceased firing.
   2. Loader cycling but sprockets not rotating.
      (GM3 supervised by GM1)
8. Remedial Action Taken:
   1. Stop loader motor immediately (pp. 212-213, fig. 234)
   2. If a round is on the tray, manually remove it.
   3. Manually remove all rounds from the hopper.
   4. Remove hopper cover via loosening butterfly nuts.
   5. Remove broken pieces of shear pin.
   6. Manually turn sprockets until the flanges are screwed together. Back-off until the shear pin holes are in alignment.
   7. Replace the shear pin.
   8. Test in manual and power.
   9. Replace cover.

   Note: Loader should not be allowed to cycle more than 11 times after pin is sheared or flanges will completely unthread and require one hour of additional labor to install shear pin.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    Faulty loading. Improper shifting due to bent lock pin.
    Sprockets failing to index properly. (pp. 209-210, fig. 230-231)
11. Remarks and Recommendations:
    Keep plungers on hopper switch well lubricated.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

LOADER - 4b

CASUALTY REPORT FORM

From:
To:

SHIP:
101.14

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Hopper - Hopper Rear Frame
4. Part or Piece:
   Pivot pin in rear hopper frame for shell support latch. (p. 248, fig. 276, pieces #26, 27).
5. Description of Casualty:
   Shell support latch sticks in a depressed condition. When a round is inserted in the hopper, the base of round will not be supported and will sag which may cause a loader jam. With head of pin off, operation may be normal for limited time.
6. Conditions Under which Casualty Occurred:
   Exercising with a dummy round and firing.
7. Casualty Analysis:
   Visually observed that the head is off. Mount Captain keeps a constant check since this is a known weak point. Latch sometimes has fallen off.
8. Remedial Action Taken:
   1. Remove and replace pivot pin for shell support latch on the rear hopper frame. Because there is not a head or slot left to hold pin stationary, it is difficult to remove the nut which is self-locking.
9. Time Involved:
   (a) Equipment inoperative: 1/2 hour
   (b) Actual Repair Work Time: 1/2 hour
10. Cause:
    Believed to be that canting round a little will put a strain on that latch and cause the head to pop off.
11. Remarks and Recommendations:
    Head is carbonized which makes it brittle. Recommend some other type material. Pins made aboard from cold rolled stock hold up better.
    Recommend periodic inspection to detect part failure.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:

101.11

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Gate Operating Mechanism
4. Part or Piece:
   Gate Operating cam roller (p. 130, fig. 132; p. 131)
5. Description of Casualty:
   Excess lost motion observed in front gates.
6. Conditions Under which Casualty Occurred:
   All conditions of loader operation.
7. Casualty Analysis:
   1. Check gate operating linkage for wear and bent linkage.
   2. Visually inspect for broken cam lever stud, or deformed cam lever roller.
8. Remedial Action Taken:
   1. Remove top cover plate from loader drive unit (p. 90; p. 91, fig. 102).
   2. Replace broken or damaged cam lever stud or cam lever roller (p. 130, fig. 132; p. 252, fig. 280).
   3. Check front gates visually for lost motion.
   4. Replace main housing top cover (p. 90; p. 91, fig. 102).

   Caution: Lost motion in front gates cannot be removed by turnbuckle adjustment.
9. Time Involved:
   (a) Equipment inoperative: 2 1/2 hours
   (b) Actual Repair Work Time: 1 1/2 hours
10. Cause:
   1. Possible improper adjustment of adjustable turnbuckle on slide bar.
   2. Binding of front gates from improper lubrication.
   3. Maladjustment of rear gate.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 5c

CASUALTY REPORT FORM

From:
To:

SHIP:

103.16

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Gate Operating Mechanism - Linkage
4. Part or Piece:
   Slide Bar (p. 130, fig. 132; p. 252, fig. 280)
5. Description of Casualty:
   Front gates did not operate properly and sprockets were not rotating.
6. Conditions Under which Casualty Occurred:
   Daily transmission check and exercise.
7. Casualty Analysis:
   1. Transfer tray was operating, but gates were not operating properly and sprockets were not operating. Rest of unit was operating.
   2. Under this condition, it points to the oldham coupling.
8. Remedial Action Taken:
   1. Removed top cover plate of loader drive unit.
   2. Visual inspection showed the gate operating cam lever was bent.
   3. Made a manual cycle, and coupling was slipping over the wormgear.
   4. Disassembled according to OP 1566 procedure (pp. 252-253).
   5. Replaced cam lever, cam roller washer, stud, stud and pin.
   6. Reassembled and readjusted.
   7. Checked in manual.
   8. Checked in power.
   9. Replaced cover. 1st time no spares aboard, had to manufacture oldham coupling and stud.
9. Time Involved:
   (a) Equipment inoperative: 1st time 4 days, 2nd 1 day
   (b) Actual Repair Work Time: " 1 day, " 1 day
10. Cause:
    Improper lubrication of adjustable turnbuckle where it comes out of the housing. Oil seal inside but nothing on outside to lubricate except to shoot oil in on shaft.
11. Remarks and Recommendations:
    Oil daily

Signed: _____
(Gunnery Officer)

J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
104.53

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5 and 6
3. Sub-Assembly:
   Gate Operating Mechanism - Linkage (p. 130, fig. 132; pp. 131-132)
4. Part or Piece:
   Intermediate Slide (p. 130, fig. 132)
5. Description of Casualty:
   Mount will continue to cycle. Everything will work normal except front and rear gates will not operate.
6. Conditions Under which Casualty Occurred:
   During routine AA firing, training practice.
7. Casualty Analysis:
   1. Check mount captain light indicator panel.
   2. Check for foul bore.
   3. Check all gate linkage.
   4. Check intermediate slide - found to be broken. (p. 271, fig. 295, piece #27)
8. Remedial Action Taken:
   1. Manually remove all ammunition from hopper.
   2. Remove broken intermediate slide.
   3. Replace intermediate slide.
   4. Readjust clearance between front gates. (p. 217; p. 219; p. 219, fig. 245)

   (GM3 supervised by GMC)
9. Time Involved:
   (a) Equipment inoperative: 2 days
   (b) Actual Repair Work Time: 6 hours
10. Cause:
    Linkage out of adjustment.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
104.54

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5 and 6
3. Sub-Assembly:
   Gate Operating Mechanism - Linkage (p. 130, fig. 132).
4. Part or Piece:
   Cam Lever Stud (p. 252, fig. 280).
5. Description of Casualty:
   Gates would not open or close.
6. Conditions Under which Casualty Occurred:
   Routine exercising of equipment during daily transmission checks.
7. Casualty Analysis:
   1. Check for broken gate operating linkage (p. 130, fig. 132).
   2. Visually check for broken cam lever stud or cam lever roller (p. 252, fig. 280).
   (GM3 supervised by GM1)
8. Remedial Action Taken:
   1. Remove top cover plate (p. 90; p. 91, fig. 102).
   2. Disconnect cam lever from slide bar by removing cotter pin from pin (p. 252, fig. 280).
   3. Remove cam lever stud.
   4. Replace cam lever stud (p. 252, fig. 280).
   5. Replace cam lever roller if visual inspection reveals damage or deformity of roller (p. 252, fig. 280).
   6. Check slide bar linkage for freedom of movement.
   7. Check clearance between front gates via turnbuckle (p. 217; p. 219; fig. 245)
   8. Replace main housing cover (p. 90; p. 91, fig. 102).
9. Time Involved:
   (a) Equipment inoperative: 3 hours
   (b) Actual Repair Work Time: 3 hours
10. Cause:
    Improper lubrication.
11. Remarks and Recommendations:
    Pay particular attention to the outside exposed portion of the slide bar linkage.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
104.55

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Gate Operating Mechanism (p. 130, fig. 132)
4. Part or Piece:
   Gate Operating Linkage and Front Gates (p. 130, fig. 132; p. 131).
5. Description of Casualty:
   1. Round jammed in loader. Front gates damaged.
6. Conditions Under which Casualty Occurred:
   Firing routine AA training practice.
7. Casualty Analysis:
   1. Visual inspection.
      (GM3 supervised by GM1)
8. Remedial Action Taken:
   1. Stop loader power at once.
   2. Unload hopper and remove jam round manually.
   3. Remove front gates. (p. 271, fig. 295)
   4. Installed new front gates. (p. 131, fig. 132, piece #19)
   5. Adjust front gates (p. 217; p. 219; p. 219, fig. 245)
9. Time Involved:
   (a) Equipment inoperative: 3 months
   (b) Actual Repair Work Time: 3 hours
10. Cause:
    Left rear segment, left side plate cracked.
    Cause of this casualty unknown.
11. Remarks and Recommendations:
    Add front gates to allowance list.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:

103.15

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Gate Operating Mechanism
4. Part or Piece:
   Front Gates (p. 130, fig. 132; p. 271, fig. 295).
5. Description of Casualty:
   Front gates did not open and round forced thru gates and broke them. (Dummy Round)
6. Conditions Under which Casualty Occurred:
   During daily transmission.
7. Casualty Analysis:
   Visual inspection - obvious - result of other casualty.
8. Remedial Action Taken:
   1. Remove gate levers (p. 271, pieces 21 and 42).
   2. Remove gate rollers. (p. 271, piece 18).
   3. Replace gates from spares.
   4. Reassemble.
   5. Check out operation.
9. Time Involved:
   (a) Equipment inoperative: --
   (b) Actual Repair Work Time: --
10. Cause:
    This casualty was the result of the stripping of the oldham coupling.
11. Remarks and Recommendations:
    See casualty 101.17, Loader - 1a for oldham coupling.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 6b

CASUALTY REPORT FORM

From:
To:

SHIP:
101.16

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Transfer Tray and Shell Carriage (p. 135, fig. 136)
4. Part or Piece:
   Finger Control Link - Broken Control Link (p. 274, fig. 289, piece #22.)
5. Description of Casualty:
   Shell finger inoperative. Finger remains in open position on side of broken rod. (pp. 134-135, fig. 136; p. 231, fig. 265)
6. Conditions Under which Casualty Occurred:
   Exercising
   Automatic, AA -- Director Control.
7. Casualty Analysis:
   Shell finger remained open. Procedure is to check adjustable finger control link first. Visual inspection clearly shows broken link.
8. Remedial Action Taken:
   1. Remove cotter pin connection of control link to shell finger pin. (p. 274, fig. 298, pieces #123, 124, 19).
   2. Remove cotter pin and connection of adjusting end to cam lever arm. (p. 274, fig. 298, pieces 105, 106, 20).
   3. Remove adjusting end and spring from control link.
   4. Replace finger control link and reassemble.
   5. Adjust tray shell finger link. (pp. 230-231, fig. 265)
9. Time Involved:
   (a) Equipment inoperative: First time - no spare - welded link - 2 hours.
   (b) Actual Repair Work Time: First time - 2 hours. Second time, and others, spare aboard - 1 hour
10. Cause:
    Material failure - Link appears to be of insufficient strength.
11. Remarks and Recommendations:
    1. Design link for greater strength -- perhaps larger diameter.
    2. A turnbuckle adjusting arrangement for adjustment of control link to eliminate removal for adjustment.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
101.18, 103.14

1. Major Unit:
   3"/50 RFTM MK 25 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Transfer Tray and Shell Carriage
4. Part or Piece:
   Shell Finger Mechanism (p. 132, fig. 134; p. 134; p. 274, fig. 298).
5. Description of Casualty:
   Bent shell finger
6. Conditions Under which Casualty Occurred:
   During firing, AA, Director Control Left Gun
7. Casualty Analysis:
   1. Visual inspection and loaded gun.
   2. Firing stopped and motor stalled.
8. Remedial Action Taken:
   1. Push "stop" button.
   2. Unload gun after permission received (cold gun at the time).
   3. Manually remove shells from hopper.
   4. Remove cotter pin and connection of adjustable end of control link to cam lever arm (pp. 274, fig. 289, pieces 105, 106, 20).
   5. Remove finger.
   6. Repair or replace finger.
   7. Reassemble and check adjustment (pp. 230-231, fig. 265; p. 132, fig. 134; pp. 134-135, fig. 136).
   8. Replace shear pin which also broke (pp. 212-213).
      (See casualty 104.52, Loader-4a)
   9. Check out in manual and in power.
9. Time Involved:
   (a) Equipment inoperative: 4 hours
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    During firing, shear pin sheared while moving round to the center position of the hopper, making the sprockets inoperative and leaving round midway to the center. When tray came up, it struck the cartridge case, jamming the motor, leaving the gun loaded and unfired. Right shell finger bent.
11. Remarks and Recommendations:
    Shipfitters made a form corresponding to the shape of a new finger, inside contour. By heating bent fingers, and placing on form, fingers may be straightened by hammering. Emergency treatment if no spares are available.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

LOADER - 6b

CASUALTY REPORT FORM

From:
To:

SHIP:

103.17, (See 101.16)

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3, MK 33 MOD O (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5, MK 2 MOD 3
3. Sub-Assembly:
   Transfer Tray and Shell Carriage - Shell Carriage
   Shell finger mechanism
4. Part or Piece:
   Adjusting end of finger control link (p. 274, fig. 298, piece #20; p. 132, fig. 134)
5. Description of Casualty:
   Shell finger fails to operate. Remains open.
6. Conditions Under which Casualty Occurred:
   Daily transmission check.
7. Casualty Analysis:
   Visual inspection when finger fails to function - control link falls out of place.
8. Remedial Action Taken:
   1. Remove threaded portion of adjusting end from finger control link.
   2. Remove broken adjusting end from cam lever arm (p. 274, fig. 298; pieces #105, 106, 20)
   3. Install new adjusting end and reassemble.
   4. Adjust shell finger link (pp. 230-231, fig. 265).
   5. Check in manual and power.
9. Time Involved:
   (a) Equipment inoperative: 15 minutes
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    Material Failure.
11. Remarks and Recommendations:
    Either should be a different design or larger diameter to take the strain.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 6b

CASUALTY REPORT FORM

From:
To:

SHIP:

104.56

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5 and 6
3. Sub-Assembly:
   Transfer Tray and Shell Carriage (p. 133, fig. 135; p. 132, fig. 134.)
4. Part or Piece:
   Shell Finger Mechanism (pp. 134-135; p. 274, fig. 298, pieces 20, 22, 27.)
5. Description of Casualty:
   1. Shell Finger would not open or close.
   2. Shell Finger would not close on round.
   3. If shell fingers are closed too soon tray will jam.
6. Conditions Under which Casualty Occurred:
   Routine exercising of equipment during daily transmission checks.
7. Casualty Analysis:
   1. Visual inspection of jammed loader.
   2. Tray wouldn't come all the way up because shell finger would be jammed on round.
   3. Shell finger would not lock on round, causing loader jam.
   4. Shell finger bent.

   (GM3 supervised by GM1)
8. Remedial Action Taken:
   1. Disconnect finger control link from finger pin.
   2. Withdraw pin and remove shell finger.
   3. Install new shell finger (and control link assembly, if necessary) (p. 274, fig. 298, pieces #27, 22, 20.)
   4. Adjust shell fingers (pp. 230-231, fig. 265)
9. Time Involved:
   (a) Equipment inoperative: 20 minutes
   (b) Actual Repair Work Time: 10 minutes
10. Cause:
    Out of adjustment.
11. Remarks and Recommendations:
    None.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
104.57

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5 and 6
3. Sub-Assembly:
   Shell Carriage Drive - Transfer Tray and Shell Carriage (p. 135, fig. 136)
4. Part or Piece:
   Sprocket Shaft (pp. 135-136; pp. 274-275, fig. 298, piece #15).
5. Description of Casualty:
   1. Sprocket shaft twisted.
   2. Shell carriage would be in forward position or in after position.
6. Conditions Under which Casualty Occurred:
   Routine exercising of equipment during daily transmission checks.
7. Casualty Analysis:
   1. Visual inspection.
   2. Shell carriage would be in forward position.
   3. Shell carriage would be in after position.
   4. Shell finger would not lock on round.
   5. Shell carriage would not make tray up switch.

   (GM3 supervised by GM1)
8. Remedial Action Taken:
   1. Removed pieces No. 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, as shown on p. 274, fig. 298 in OP 1566.
   2. Reassemble sprocket shaft mechanism.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Rear gate failing to unlock.
11. Remarks and Recommendations:
    Make sure proper adjustment is on rear gate at all times.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 6c

CASUALTY REPORT FORM

From:
To:

SHIP:
104.58

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5 and 6
3. Sub-Assembly:
   Transfer Tray and Shell Carriage (p. 139, fig. 137).
   Chute Support Bracket
4. Part or Piece:
   Chute Support Roller (p. 274, fig. 298, piece #98)
5. Description of Casualty:
   Chute support roller decreases in diameter causing a lot of play between roller and shell deflector cam way. This is all due to wear and operation of loaders.
6. Conditions Under which Casualty Occurred:
   During firing and during daily check-off.
7. Casualty Analysis:
   1. Listen for excessive rattling sound when power cycling mount.
   2. Check all linkage and parts that could have possibly worked loose.
   3. Check shell deflector manually by working up and down with hands.

   (GM3 supervised by GMC)
8. Remedial Action Taken:
   1. Remove all bolts holding shell deflector.
   2. Remove shell deflector.
   3. Remove support roller shaft and roller. (p. 274, fig. 298, piece #98; p. 273)
   4. Install new roller.
   5. Reassemble all parts.
9. Time Involved:
   (a) Equipment inoperative: 1 1/2 hours
   (b) Actual Repair Work Time: 45 minutes
10. Cause:
    Long hours of operation and cycling.
11. Remarks and Recommendations:
    Limit dry cycling to a minimum.

Signed: _____
(Gunnery Officer)

J-942
CRF-1

LOADER - 6f

CASUALTY REPORT FORM

From:
To:

SHIP:
103.1

1. Major Unit:
   3"/50 RFTM MK 33 MOD O MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Transfer Tray and Shell Carriage (p. 133, fig. 135).
4. Part or Piece:
   Shell Carriage (p. 276, figs. 299 and 300)
5. Description of Casualty:
   The carriage on the forward movement does not lock and move forward with the chain and the shell carriage slides out the rear end of the transfer tray.
6. Conditions Under which Casualty Occurred:
   Daily check off and transmission check.
7. Casualty Analysis:
   1. Visual inspection - shell carriage falls on deck.
   2. Manually cycle for operation.
   3. Check driving latch and component parts - springs and spring plungers (p. 276, fig. 300, pieces #19, 29, 4, 21, 5, 20).
   4. Check condition of locating lug (p. 135, fig. 136; pp. 135-136).
8. Remedial Action Taken:
   1. Lubricate and check action of all parts, with attention to driving latch spring and plunger.
   2. Operate in manual and power cycle.
   3. If casualty reoccurs, replace driving latch springs and plungers.
   4. If casualty again occurs, replace driving latches and, if necessary, the locating lug.
9. Time Involved:
   (a) Equipment inoperative: _____
   (b) Actual Repair Work Time: 20 minutes
10. Cause:
    1. Wear on parts.
    2. Possible weak spring in driving latch or improper lubrication on driving latch spring and plunger.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
104.59

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5 and 6
3. Sub-Assembly:
   Transfer Tray and Shell Carriage (p. 135, fig. 136)
   Shell Carriage Mechanism
4. Part or Piece:
   Carriage Guide Blocks (p. 276, fig. 300, pieces #7 and 15).
5. Description of Casualty:
   1. Shell Carriage would not ride steady in tray.
   2. Shell Carriage could not be properly adjusted.
6. Conditions Under which Casualty Occurred:
   Routine exercising of equipment during daily transmission checks.
7. Casualty Analysis:
   1. Inspect visually for wear and lost motion.
      a) Carriage Guide Blocks for proper riding in the tray (p. 276, fig. 300, pieces 7 and 15)
      b) Driving Latches (p. 276, fig. 300, pieces 19, 29).
      c) Locating Lug (p. 135, fig. 136)
      (GM3 supervised by GM1)
8. Remedial Action Taken:
   1. Remove shell carriage (p. 276, fig. 299).
   2. Install new guide blocks (p. 278).
   3. Replace shell carriage in tray (p. 276, fig. 299).
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Normal wear.
11. Remarks and Recommendations:
    OP deficiency: carriage locating lug omitted in fig. 298, p. 274.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 6f

CASUALTY REPORT FORM

From:
To:

SHIP:
104.60

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5 and 6
3. Sub-Assembly:
   Transfer Tray and Shell Carriage (p. 135, fig. 136)
   Shell Carriage Mechanism
4. Part or Piece:
   Carriage Latch Blocks (pp. 274-275, fig. 298, piece #23).
5. Description of Casualty:
   Tray cycles, carriage moves forward and is released from drive chain. Carriage fails to catch on carriage latch blocks and is thrown out of rear of transfer tray.
6. Conditions Under which Casualty Occurred:
   During daily check-off.
7. Casualty Analysis:
   1. Cut out loader motors.
   2. Check carriage latches on tray for wear (p. 276, fig. 300, pieces #8 and 22).
   3. Check carriage latch blocks for wear (p. 274, fig. 298, piece #23).
   4. Check carriage friction spring for damage and proper operation (p. 274, fig. 298, piece #124).
   5. Check carriage for missing parts or broken parts (p. 276, fig. 300).

   (GM3 supervised by GM1)
8. Remedial Action Taken:
   1. Run tray down manually.
   2. Remove worn carriage latch blocks (p. 274, fig. 298, pieces #23, 24, 137, 29).
   3. Install with new latch blocks.
9. Time Involved:
   (a) Equipment inoperative: 30 minutes
   (b) Actual Repair Work Time: 30 minutes
10. Cause:
    Wear and/or malfunction of carriage friction spring.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)

J-942
CRF-1

LOADER - 7b

CASUALTY REPORT FORM

From:
To:

SHIP:
102.3

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1566)
2. Main Assembly:
   Loader MK2 MOD 6
3. Sub-Assembly:
   Buffer Bar and Shell Deflector (p. 139, fig. 137)
4. Part or Piece:
   Pivot chute and liner and extension (pp. 138-140).
5. Description of Casualty:
   During firing, the pivoted chute liner extension broke.
6. Conditions Under which Casualty Occurred:
   Firing and during elevation, the liner snapped.
7. Casualty Analysis:
   1. Visual inspection.
   2. Piece falls out and during firing, empty cases jump out of chute.
8. Remedial Action Taken:
   1. Disassemble (p. 273).
   2. No spares aboard - liner welded but did not hold up (first time).
   3. Replace liner (spares aboard).
   4. Adjust (avoid excessive clearance) (p. 237).
9. Time Involved:
   (a) Equipment inoperative: If no spares - indefinite.
   (b) Actual Repair Work Time: 20 minutes
10. Cause:
    Liner takes a beating and does not hold up under normal use.
11. Remarks and Recommendations:
    Be certain spares are aboard. Keep proper adjustment. OP procedure correct.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 7b

CASUALTY REPORT FORM

From:
To:

SHIP:
104.61, 103.7

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Buffer Bar and Shell Deflector (p. 141, fig. 138)
4. Part or Piece:
   Movable chute support pin (p. 273, fig. 297, piece #4).
5. Description of Casualty:
   Movable chute support pin sheared off and not able to pick up movable chute.
6. Conditions Under which Casualty Occurred:
   Routine exercising of equipment during daily transmission.
7. Casualty Analysis:
   1. Visual check. Movable chute in disconnected condition when gun is depressed. (p. 141, fig. 138; p. 140).
      (GM3 supervised by GM1)
8. Remedial Action Taken:
   1. Remove and replace movable chute support pin (p. 273, fig. 297)
9. Time Involved:
   (a) Equipment inoperative: 20 minutes
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    1. Personnel Carelessness
    2. Movable chute supporting pin not engaged in movable chute before elevating the gun.
11. Remarks and Recommendations:
    Cams be installed on end of movable chute.
    (This ORDALT is now in effect)

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:

101.2

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Breech Interlock Mechanism (pp. 140-143; pp. 182-188).
4. Part or Piece:
   Interlock Finger
5. Description of Casualty:
   In automatic fire, when gun returns to battery, "Foul Bore" is indicated in indicator light, and loader cycling automatically ceases, despite the fact that bore is clear.
6. Conditions Under which Casualty Occurred:
   During firing in AA Automatic, Director Control.
7. Casualty Analysis:
   Visual inspection determined that breechblock was open and bore was clear. Casualty believed to be in interlock finger.
8. Remedial Action Taken:
   MK 2 MOD 5
   1. Use hand reset lever to indicate "bore clear" while firing.
   2. Completely lubricate working parts of breech interlocking mechanism, special attention to the latch lever. Visual check of operation. (pp. 140-142).
   3. Check for missing or broken pins in the linkage. (p. 143, fig. 139; p. 253, fig. 281).
   4. Replace latch lever or reface working surface by stoning.
   5. Check adjustment. (pp. 219-220)

   MK 2 MODS 4 and 6
   1. Use hand reset lever to indicate "bore clear" while firing.
   2. Completely lubricate working parts of breech interlocking mechanism, special attention to the latch lever. Visual check of operation. (pp. 142-143).
   3. Check for missing or broken pins in the linkage. (p. 254, fig. 282).
   4. a) Check interlock finger and bore-clear clevis for freedom of action. (p. 144, fig. 140).
      b) Check pull rod and interlock spring. (p. 261, fig. 287, pieces #142 and 144).
   5. Check adjustment. (pp. 220-224; p. 222, fig. 250).
9. Time Involved:
   (a) Equipment inoperative: 3 hours
   (b) Actual Repair Work Time: 3 hours

LOADER - 8a

CASUALTY REPORT FORM

SHIP: 101.2

10. Cause:
Wear on interlock finger and latch lever.

11. Remarks and Recommendations:
Design a mechanism replacement similar to Breech Interlock Mechanism MK 2, MODS 4 and 6, OP 1566, p. 144.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 8a

CASUALTY REPORT FORM

From:
To:

SHIP:
101. 3

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK2 MOD 5
3. Sub-Assembly:
   Breech Interlock Mechanism MK 2 MOD 5 (pp. 140-143; pp. 182-188; pp. 253-254).
4. Part or Piece:
   Safety Latch
5. Description of Casualty:
   Safety latch remains in housed position, in prefiring check-off.
6. Conditions Under which Casualty Occurred:
   Pre-firing check-off.
7. Casualty Analysis:
   Breechblock was closed but reset lever was operable. This showed safety latch was not functioning.
8. Remedial Action Taken:
   1. Latch oiled and worked to free it. (p. 143, fig. 139).
   2. If still inoperable, remove latch (pp. 182-189; pp. 253-254).
   3. Remove foreign matter and clean all parts.
   4. Reassemble.
   5. Check operation.
9. Time Involved:
   (a) Equipment inoperative: 3 hours
   (b) Actual Repair Work Time: 3 hours
10. Cause:
    Rust, dirt, corrosion prevents spring from returning latch to proper engagement.
11. Remarks and Recommendations:
    During weekly check and pre-firing check-off work latch manually to be certain latch has proper snap.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

CASUALTY REPORT FORM

From:
To:

SHIP:
104.62

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5, MK 2 MODS 4 and 6
3. Sub-Assembly:
   Breech Interlock Mechanism (p. 143, fig. 139)
4. Part or Piece:
   Arrangements MK 2 MOD 5 (pp. 183-189; p. 253, fig. 281).
5. Description of Casualty:
   The interlock mechanism will work properly in automatic fire until gun comes into battery loaded, thus calling for a manual reset. Mechanism will fail to reset.
6. Conditions Under which Casualty Occurred:
   During routine AA firing or during daily check-off.
7. Casualty Analysis:
   1. Try to reset in manual 2 or 3 times.
   2. Check all linkage missing pins.
   3. Check all linkage for broken parts.
   4. Check all parts and linkage for bent or frozen linkage.
      (Was found to be frozen)
      (GM2 supervised by GMC)
8. Remedial Action Taken:
   1. Take out all pins in linkage (MK 2 MOD 5, p. 253, fig. 281; pp. 253-254) (MK 2 MOD 4 and 6, p. 254, fig. 282; pp. 254-255).
   2. Disassemble all interlock mechanism.
   3. Remove all rust, corrosion, or any other substance interfering with movement of mechanism.
   4. Reassemble all mechanism.
   5. Check out mechanism
9. Time Involved:
   (a) Equipment inoperative: 1 day
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Lack of Lubrication.
11. Remarks and Recommendations:
    Keep well lubricated at all times.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 8b

CASUALTY REPORT FORM

From:
To:

SHIP:

102.1

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 6
3. Sub-Assembly:
   Breech Interlock Mechanism (p. 254, fig. 282; pp. 142-145; pp. 182-189; pp. 220-224).
4. Part or Piece:
   Entire linkage of Breech Interlock Mechanism
5. Description of Casualty:
   Loader failed to cycle after first cycle.
6. Conditions Under which Casualty Occurred:
   Pre-firing check-off.
7. Casualty Analysis:
   1. Check clutch assembly adjustment.
   2. Checked clutch solenoid and linkage.
   3. Followed on thru and discovered breech interlock mechanism was not operating properly.
8. Remedial Action Taken:
   1. Checked Breech Interlock mechanism to free all parts. (p. 222, fig. 250).
   2. Mechanism disassembled (pp. 254-255).
   3. Parts cleaned, lubricated and reassembled.
   4. Adjust mechanism (pp. 220-224).
   5. Check operation using dummy rounds.
9. Time Involved:
   (a) Equipment inoperative: 6 hours
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    Improper lubrication. Lubrication chart not followed. Fitting not easily seen or accessible.
11. Remarks and Recommendations:
    1. Follow charts in lubrication.
    2. An oil spray injector system that would bathe the whole loader unit each time it fired would eliminate nearly all of the trouble.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 8b

CASUALTY REPORT FORM

From:
To:

SHIP:

104.63

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 4 and 6 (p. 184, fig. 190).
3. Sub-Assembly:
   Breech Interlock Mechanism (p. 144, fig. 140; pp. 183-189; pp. 254-255).
4. Part or Piece:
   Arrangements MK 2 MOD 4 and 6 Breech Interlock Lever
5. Description of Casualty:
   1. "Bore Clear" did not make when firing and cycling ceased.
6. Conditions Under which Casualty Occurred:
   Firing routine AA training practice.
7. Casualty Analysis:
   1. Check interlock linkage for freedom of movement. Interlock latch lever stiff and difficu t to work (p. 144, fig. 140).
   2. Work all linkage manually. (p. 184, fig. 190; pp. 254-257).

   (GM3 supervised by GM1)
8. Remedial Action Taken:
   1. Disassemble mechanism linkage (p. 254, fig. 282).
   2. Remove any rust or other substance causing improper operation.
   3. Reassemble mechanism. (p. 222, fig. 250; p. 254, fig. 282).
   4. Check out manually.
9. Time Involved:
   (a) Equipment inoperative: 5 hours
   (b) Actual Repair Work Time: 5 hours
10. Cause:
    Improper lubrication.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 9

CASUALTY REPORT FORM

From:
To:

SHIP:

102. 2

1. Major Unit:
   3"/50 RFTM MK 33 MOD O (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 6
3. Sub-Assembly:
   Control System (p. 153, fig. 150)
4. Part or Piece:
   Right Loader indicator panel - bore clear light.
5. Description of Casualty:
   After firing one round, light did not come back on.
   Intermittent - lights loose in sockets
6. Conditions Under which Casualty Occurred:
   Director control AA - Drone practice firing.
7. Casualty Analysis:
   1. Gun Captain ceased firing because light was not on and thought he had loaded gun.
   2. Bore clear checked.
   3. Breech block was down.
   4. Bore clear linkage and bore clear lever checked.
   5 All linkage OK.
8. Remedial Action Taken:
   Indicator light tightened in socket.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    Indicator light became loose in socket from firing.
11. Remarks and Recommendations:
    Some quick opening cover, on control panel for prefiring check or a locking light bulb.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 9

CASUALTY REPORT FORM

From:
To:

SHIP:
102.7

1. Major Unit:
   3"/50 RFTM MK 3 MOD O (OP 1566)
2. Main Assembly:
   Loader MK2 MOD 6
3. Sub-Assembly:
   Control System
4. Part or Piece:
   Clutch solenoid - taper pin in link arm (p. 160, fig. 155; p. 255, fig. 283).
5. Description of Casualty:
   Taper pin in link arm to solenoid link broke. Loader stopped cycling.
6. Conditions Under which Casualty Occurred:
   Firing - Director control - AA drone practice.
7. Casualty Analysis:
   1. All lights were on. Loader stopped cycling. Thought clutch solenoid was out of adjustment.
   2. Solenoid could not be tripped by hand, therefore it was in the solenoid linkage.
   3. Piece of pin lying in bottom of casing.
8. Remedial Action Taken:
   1. Removed cover of solenoid (p. 255, fig. 283; pp. 255-257)
   2. Shake movement of linkage - there was none.
   3. Piece of pin lying in casing.
   4. Remove broken piece of pin in linkage by using a small punch.
   5. Replace pin.
   6. Replace cover.
   7. Run gun thru cycle manually.
   8. Run thru in power and dummy round.
9. Time Involved:
   (a) Equipment inoperative: 2 hours
   (b) Actual Repair Work Time: 15 minutes
10. Cause:
    Tapered-pins are split pins and do not seem to be strong enough. Pin was not fouled or corroded. Guns were not in use long enough for it to be wear.
11. Remarks and Recommendations:
    Trip solenoid by hand before starting loading cycle on transmission check to be sure it is operating.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 9

CASUALTY REPORT FORM

From:
To:

SHIP:
103.2

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Control System Left Side Plate
4. Part or Piece:
   Electric Firing Interlock Switch (p. 160; p. 107, fig. 115).
5. Description of Casualty:
   1. Gun fired before transfer tray completed its cycle.
   2. Gun fired and breech housing recoiled into transfer tray. Damaged transfer tray and left side plate parts.
6. Conditions Under which Casualty Occurred:
   During firing AA Director control, Automatic.
7. Casualty Analysis:
   1. Checked out switches in loading circuit. Found to be all right.
   2. First thought transfer tray had come up and was on the next cycle. (Was not the case).
   3. Checked out firing circuit and eliminated down to electric firing switch.
   4. E. F. I. switch was locked in a closed position so that when breechblock closed, it completed the firing circuit which caused it to fire before the transfer tray had completed its cycle.
8. Remedial Action Taken:
   1. E. F. I. switch replaced.
   2. Adjust E. F. I. switch (p. 237, fig. 274).
   3. Parts in left side plate, transfer tray and tray arms were ordered from gun factory and replaced.
9. Time Involved:
   (a) Equipment inoperative: 6 weeks
   (b) Actual Repair Work Time: 2 days
10. Cause:
    Sticking E. F. I. micro switch.
11. Remarks and Recommendations:
    Before firing, a test lamp is hooked up to check the E. F. I. switch by cycling loader several times in automatic control. (Test lamp is used to check out firing circuit every day. Each mount has its own test lamp).

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 9

CASUALTY REPORT FORM

From:
To:

SHIP:
103.8, 102.8

1. Major Unit:
3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
Loader MK 2 MOD 5
3. Sub-Assembly:
Loader Drive Motor and Control System
4. Part or Piece:
Line Contactor (p. 148, fig. 144)
5. Description of Casualty:
Loader motor fails to shut off when loader stop button is pressed.
6. Conditions Under which Casualty Occurred:
Any condition when loader motor is in operation.
7. Casualty Analysis:
   1. Check switch -- found to be satisfactory.
   2. Visually checked loader controller -- found satisfactory.
   3. Found 110 v. A.C. supply which actuates line contactor is removed when stop button is pressed and line contactor still in energized position.
   4. Examined line contactor and found where movable portion hit stationary portion surfaces appeared so smooth as to cause mechanical adhesion.
8. Remedial Action Taken:
   1. Scored surfaces with sharp instrument.
   2. Reassembled.
   3. Tested -- operation satisfactory .

   or

   1. Insert strip of insulation paper between contactors. (FT3 supervised by FT1)
9. Time Involved:
   (a) Equipment inoperative: 4 hours
   (b) Actual Repair Work Time: 2 hours
10. Cause:
   1. Poor design and over-use, which may cause smoothness which may result in mechanical adhesion, or
   2. Contactors may become magnitized causing them to adhere.
11. Remarks and Recommendations:
Manufacture with a definite scored pattern or so that they would not slap together.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 9

CASUALTY REPORT FORM

From:
To:

SHIP:

103.9

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753) (OP 1566)
2. Main Assembly:
   Loader MK 2 MOD 5
3. Sub-Assembly:
   Control System
4. Part or Piece:
   Firing Cut-out Switch (FCS) Relay OP 1753, p. 285
   OP 1566, pp. 152-154
5. Description of Casualty:
   Loaders fail to cycle -- when gun captain's control relay energized.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Check loading mechanism for operation -- no operation.
   2. Check gun captain's control panel. FCS indicating lamp not energized. (MK 60 MOD O, OP 1566, p. 153)
   3. Check firing cut-out mechanism, cam follower pin and switch push pin. Found to be OK. OP 1753, p. 30, fig. 26; pp. 31-36,
   4. Check relay (FCS) -- found faulty - (Note - 9 out of 10 times in need of adjustment).
8. Remedial Action Taken:
   1. Adjust FCS relay.
   2. Tested circuit -- found to be OK. Tested by closing switch.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 1 hour
10. Cause:
    Vibration.
11. Remarks and Recommendations:
    30 times - same type of casualty - (FSS) (EFI) (BSC) (RSC) switches on 12 mounts since May 1949.
    (FT3 supervised by FT1)
    Deficiency -- meager information on FCS and adjustment.

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 9

CASUALTY REPORT FORM

From:
To:

SHIP:
103.10

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1753)
2. Main Assembly:
   Loader MK 2 MOD 5
   Control System (p. 285, fig. 170).
3. Sub-Assembly:

4. Part or Piece:
   Ground lead.
5. Description of Casualty:
   No firing circuit.
6. Conditions Under which Casualty Occurred:
   Daily transmission checks.
7. Casualty Analysis:
   1. Checked firing circuit with test lamp - none found.
   2. Gave all leads visual check - found broken ground lead.
   (FT3 supervised by FT1)
8. Remedial Action Taken:
   1. Repaired broken lead.
   2. Tested circuit -- test lamp -- result satisfactory.
9. Time Involved:
   (a) Equipment inoperative: 1/2 hour
   (b) Actual Repair Work Time: 1/2 hour
10. Cause:
    Weather exposure and personnel carelessness.
11. Remarks and Recommendations:

Signed: _____
(Gunnery Officer)
J-942
CRF-1

LOADER - 9

CASUALTY REPORT FORM

From:
To:

SHIP:

104.64

1. Major Unit:
   3"/50 RFTM MK 27 MOD 3 (OP 1566)
2. Main Assembly:
   Loader MK 2 MODS 5 and 6 (pp. 214-216; p. 146, fig. 141; p. 215, figs. 238, 239).
3. Sub-Assembly:
   Control System
4. Part or Piece:
   Clutch Solenoid Linkage (p. 255, fig. 283).
5. Description of Casualty:
   Loader stopped cycling - Bell crank shaft twisted or connecting rod is bent or frozen.
6. Conditions Under which Casualty Occurred:
   During routine AA firing or during routine loader cycling.
7. Casualty Analysis:
   1. Check Gun Captain's indicator panel - all ok.
   2. Check clutch solenoid to determine if it is energized via Gun Captain's keys - energized.
   3. Check throw of solenoid manually. Binding conditions discovered.

   (GM3 supervised by GM1)
8. Remedial Action Taken:
   1. Disassemble all clutch solenoid bell crank linkage (pp. 255-257; fig. 283; p. 215, figs. 238, 239).
   2. Remove twisted shaft.
   3. Install new bell crank shaft.
   4. Reassemble all linkage.
   5. Replace solenoid cover.
   6. Check out mechanism in power.
9. Time Involved:
   (a) Equipment inoperative: 1 hour
   (b) Actual Repair Work Time: 30 minutes
10. Cause:
    Long hours of operation.
11. Remarks and Recommendations:
    Limit dry cycling to a minimum.

Signed: _____
(Gunnery Officer)

J-942
CRF-1